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Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

JANUARY 1963

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WASHINGTON

KEOGH LAW NEEDS INTERPRETATION

Although the Keogh Bill is now Public Law 87-792, rules and regulations have not been issued by the Internal Revenue Service. The Law Department of the American Medical Association points out that as customarily occurs, this new law has ambiguities which will have to be clarified by IRS regulations. Until these are issued, doctors are advised to postpone making any arrangements, whether using insurance, pension trusts or combinations of the two, mutual funds or government bonds.

Tax deductions may not be taken in any event until 1963 as the law is not effective until 1963.

An informal committee from the AMA, the American Bar Association, the American Bankers Association, the American Farm Bureau Federation and the American Institute of Certified Public Accountants will work with the IRS to discuss guidelines. One meeting has been held with IRS officials.

FEW PHYSICIANS IN CONGRESS

When the 88th Congress convenes it will have only three physicians in its membership, the smallest total in more than two decades.

Returning to the House of Representatives is Dr. Durward G. Hall, Springfield (R-Mo.), and Dr. Thomas E. Morgan (D-Pa.). When the House convenes on January 9, Dr. James D. Weaver, Erie, Pa. (R-Pa.), will take oath for the first time. Dr. Weaver was the only one of seven physicians who were candidates for the first time who was elected.

ELDERCARE VOTES IN SENATE

The President's health insurance program was defeated on the Senate floor on July 17 by a vote of 52 to 48.

In the new Senate will be Sen. Peter H. Dominick (R) who was elected over incumbent Sen. John A. Carroll (D) in Colorado, and in Wyoming Sen. J. J. Hickey (D) lost to Milward Simpson (R). This removes two pro-eldercare votes and adds two antis. However, Senators Capehart (R-Ind.) and Wiley (R-Wis.) were defeated and their successors are ardent eldercare champions, Democrats Bayh and Nelson. Democrats Ribicoff (Conn.), McIntyre (N. H.) and Brewster (Md.) take the places of Republicans who voted against King-Anderson legislation last July.

COMMITTEE INFLUENCES

The Senate Finance Committee has only one of its 17 seats vacant, that of the retired conservative Republican John M. Butler (Md.), which would mean that if another conservative Republican is named, it will still be able to have a small majority against social security eldercare. A bill would have to go through the House Ways and Means Committee and be passed by the House before public hearings would be held by the Senate Finance Committee.

The House Ways and Means Committee has one Republican and two Democratic vacancies. This past year only 10 of the committee's 25 members could be definitely regarded as King-Anderson supporters so that it is probable that regardless of who fill the vacancies, any decisions will be by close margins.

HEW CITES MOST IMPORTANT LAWS PASSED

The Department of Health, Education and Welfare listed 25 new laws enacted by Congress in 1961-1962 which it felt were of major importance to the department.

Those dealing with health were given as Public Law 87-781, amending the Federal Food, Drug and Cosmetic Act to assure safety and effectiveness of drugs, standardize names and strengthen the authority of factory inspection.

The others listed were the establishment of a National Institute of Child Health and Human Development and National Institute of General Medical Sciences; federal financial aid for research and demonstrations to benefit the chronically ill and aged and improvement of nursing homes; the Federal Water Pollution Control Act; authorization of aid to states to help set up family health service clinics; project grants to state and local communities for intensive community vaccination programs; extension of the Air Pollution Act, and the authorization of a 500 bed hospital for the medical teaching program of Howard University.

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Across
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SOCIAL SECURITY TAX INCREASE TO COST MISSOURI TAXPAYERS $45 MILLION

Under this heading the Missouri Public Expenditure Survey discusses Social Security taxes.

"On Jan. 1, 1963, the federal social security tax will go up for the ninth time in the last 13 years. The tax rate increase will amount to ½ of 1 per cent on employees, and a like amount for employers, applied to the first $4,800 of earnings. The rate increase for the self-employed will be 7/10 of 1 per cent.

"The more than two million Missouri employees, employers and self-employed who pay federal social security taxes will pay about $45 million a year more because of the rate increase. This is more than Missouri state government's combined appropriations for corrections, collection of revenue, debt service, conservation and recreation, elective officers, the judiciary, the general assembly and public safety and defense.

"With the increase in rates on January 1, the maximum tax paid by an employed person will increase from $150 to $174 with a like amount paid by the employer. The maximum tax paid by a self-employed person will increase from $225.60 to $259.20.

"Two additional rate increases are scheduled to occur by 1968 under the present law. At that time the rate will be 4⅝ per cent, to be paid by employees, with an equal amount to be paid by employers. The combined rate will be 9¼ per cent. The rate for the self-employed will rise to 6.9 per cent. The present schedule or rate increases was enacted by Congress in 1961.

Although social security tax rates are already scheduled to increase to 4⅝ per cent for both employees and employers, and 6.9 per cent for the self employed, other proposals to increase the tax still further have been made, and will be made again. One such proposal certain to receive attention in coming months is the administration-sponsored proposal to finance medical care benefits under social security.

"The new proposal is expected to be similar to the "Health Insurance Benefits Act," which was before the last session of Congress. That proposal would have increased the social security tax by ¼ of 1 per cent each on employees and employers, and would have increased the wages covered by the tax rate from $4,800 to $5,200, to

(Continued on page 60)

PAST AND SCHEDULED SOCIAL SECURITY TAXES

			Maximum Tax Paid		
Period	*Per Cent Rate**	*Covered Wages*	EMPLOYEE	EMPLOYER	TOTAL
1937-49	1	$3,000	$ 30.00	$ 30.00	$ 60.00
1950	1½	3,000	45.00	45.00	90.00
1951-53	1½	3,600	54.00	54.00	108.00
1954	2	3,600	72.00	72.00	144.00
1955-56	2	4,200	84.00	84.00	168.00
1957-58	2¼	4,200	94.50	94.50	189.00
1959	2½	4,800	120.00	120.00	240.00
1960-61	3	4,800	144.00	144.00	288.00
1962	3⅛	4,800	150.00	150.00	300.00
1963-65	3⅝	4,800	174.00	174.00	348.00
Scheduled					
1966-67	4⅛	4,800	198.00	198.00	396.00
1968	4⅝	4,800	222.00	222.00	444.00

* Paid by both employees and employers. Self-employed pay about one and a half times the tax paid by workers.

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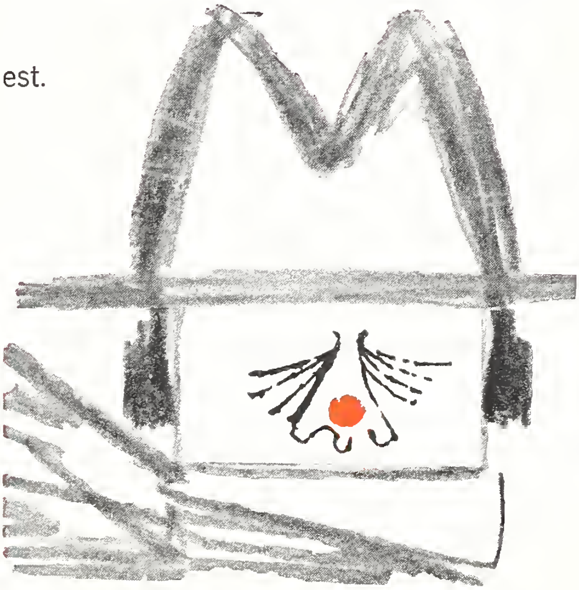

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Missouri Academy of General Practice

Two hundred and ten physicians attended the 14th Annual Scientific Assembly of the Missouri Academy of General Practice, held at Hotel Chase, St. Louis, November 3 and 4, 1962. Total registration was 407.

New officers elected (left to right) are Drs. I. Charles Fowler, N. Kansas City, board member; Roy W. Pearse Jr., Nevada, chairman of the board and AAGP delegate; Walter T. Gunn, St. Louis, president; Edson C. Carrier, Kansas City, president-elect; Charles O. Metz, St. Louis, AAGP delegate, and Walter Gray, St. Louis, alternate AAGP delegate. Other officers elected were Dr. John T. Crowe, Cape Girardeau, vice president; Drs. R. Stacy Long, Kansas City, Wilbur A. Mullarky, St. Louis, and Leroy J. Miller, Columbia, members of the board.

Officers present took the oath of office.

Scientific sessions were well attended.

Mr. Thornton received the Academy Award from Dr. Pearse.

Mr. James W. Foristel was the banquet speaker.

Dr. Gunn (right) received the gavel from Dr. Pearse.

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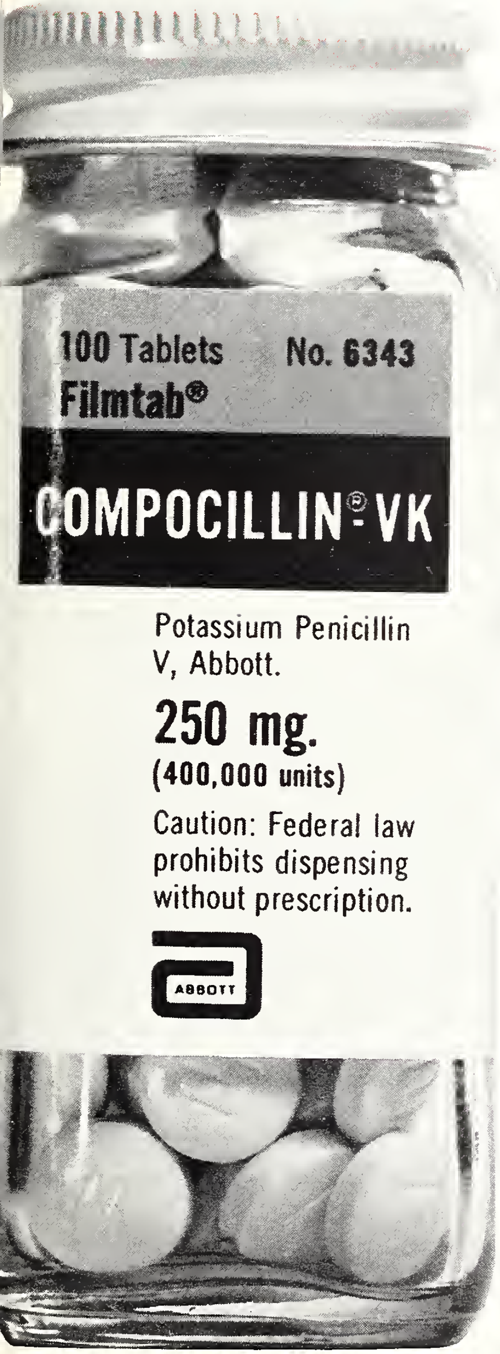
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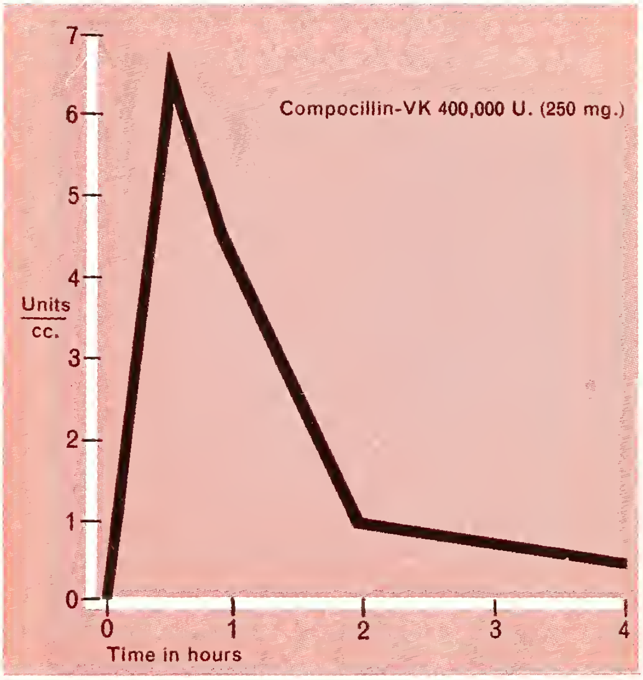

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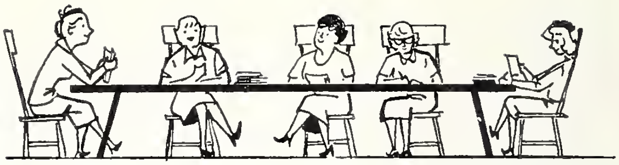
Woman's Auxiliary



The Holidays are over. The tinselled trees and sparkling lights, the candy canes, the wassail bowls, gay beribboned gifts, all have come and gone and before us stretches a brand New Year bright with promise. Looking back we find much for which to be thankful. Looking ahead we feel a surge of hope that we may accomplish much and bring our fondest dreams to fruition.

One of these fond dreams is to see every doctor's wife become an active Auxiliary member. What a great boost in morale and prestige we would have among our own membership, and what an impact on the public at large if we could all stand side by side with the medical profession and present a united front.

Mrs. J. Martyn Schattyn

All over the country the results of Auxiliaries-at-Work are visible. In many fields of civic responsibility our members have accepted the challenge and are working together for a better community and a better country. The American Medical Association has credited the Auxiliary with the interest in politics shown by the medical profession. More medical men are seeking public office and winning elections. Behind such men you can be sure there is always a competent and sincere wife who eases his path and helps him on every forward step.

We have likewise been "credited" in a rather backhanded way by a student writer in an article which appeared not long ago in a small Indiana college newspaper. The student wrote to express his view favoring socialized medicine, and he deplored the fact the Woman's Auxiliary to the AMA was "intruding" into the area of politics and was using its influence to speak against the King-Anderson Bill. He bemoaned the fact that we were making this question our fight, and practically called us meddlers in what was none of our business!

To me this meant that as a force in our national life we had arrived! When our efforts for freedom and the dignity of the practice of medicine have the effect of needling the opposition we can rest assured that we as women are showing our "nuisance" value if nothing else.

The medical profession on the national level is fast coming to the full realization that the Auxiliary is its strong right arm in medicine's struggle in this modern world. This is the position for which we have been striving many years, a full partnership of responsibility and one which it will be our privilege to live up to.

In visiting auxiliaries throughout the state I am always deeply impressed with the cooperation between the Medical Societies and the women's organization. However, there are still some county societies which do not have auxiliaries and apparently do not encourage their wives to organize. They do not realize what a vital role an auxiliary can play in their own well being. We can only hope the seed of auxiliary may some day take root and flourish so that these societies too may have the cooperation and assistance which only their distaff side can give them.

The Medical Association has many times asked the Auxiliary for its help on specific projects and for resolutions on important questions of the day. Would it be out of place for the Auxiliary to respectfully request that the State Association give us its assistance in urging all the organized medical societies in the state to implement the formation of auxiliaries in their areas? The effect of such a resolution could only be to the advantage of the doctors themselves.

Those of us who have found fulfillment and satisfaction in working in the Auxiliary have found it also to be exciting, stimulating and rewarding. We sincerely wish this same experience could be part of the life of every doctor's wife.

Bright and shining 1963 is with us to do with as we wish. What we accomplish—what we dream and hope for—depends on us. This is a heavy responsibility, yet we face it with courage and determination. This is a wonderful gift—a whole New Year for fellowship and service. God grant we may use it well.

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JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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ROBERT H. RAMSEY, M.D.; PAUL MURPHY, M.D.;
G. O. BROUN, M.D., *and* LANDIS Y. DAVIS, M.D., *St. Louis*

Hypogammaglobulinemia

Hypogammaglobulinemia is discussed, the pertinent literature reviewed and a case of, probably, acquired type is reported.

Drs. Ramsey, Murphy, Broun and Davis are in the Department of Medicine, St. Louis University School of Medicine and Firmin Desloge Hospital, St. Louis.

Alteration in serum gamma globulin concentration in relation to various disease processes has been the subject of much investigation in recent years. Although case reports of decreased serum globulin and increased susceptibility to infection were in the literature before Bruton's report in 1952,[6] he and his associates were the first to recognize decreased gamma globulin as a disease and named it "agammaglobulinemia." This malady was characterized by low levels of antibodies, low levels of gamma globulin, repeated lack of response to specific antigens, enhanced susceptibility to bacterial infection and clinical improvement with replacement of gamma globulin. Good and Mazzitello[24] have stressed the association of repeated respiratory infections in adults with the acquired type of hypogammaglobulinemia.

Classification of hypogammaglobulinemia has been attempted by many others. One can divide the patients with the primary type of this disease into two general groups, the congenital group and the acquired group. The congenital group is often diagnosed at an earlier age. It is transmitted as a sex linked recessive trait,[25, 36] and was formerly thought to occur only in males. Recently it has been found in young females.[36] Lower levels of gamma globulin are usually present in the congenital group. Leukopenia and atrophy of lymphoid tissue also are thought to be more prevalent in this type. The acquired primary form occurs with equal frequency in both sexes, and there is no evidence of familial tendency toward this disorder. Until the appearance of low gamma globulin levels, there is no evidence of an increased susceptibility to infection. Exactly why the patient suddenly loses the ability to maintain a normal blood level of gamma globulin is not known. In many instances the appearance of a low level gamma globulin in the blood appears related to stress. Whether it arises as a late expression of a congenital defect, as a result of severe stress, or both, is still an unsolved problem.

In secondary hypogammaglobulinemia the gamma globulin deficiency may be from blood dyscrasias, for example Hodgkin's disease and other lymphomata,[2] hemolytic anemia, pancytopenia, leukopenia and multiple myeloma.[1] Splenomegaly and hepatomegaly are frequently reported in these patients. Hypogammaglobulinemia may also be in association with other serum protein alterations such as those seen in starvation,[18] sprue, nephrotic syndrome and cirrhosis. Hypogammaglobulinemia due to irradiation or radiomimetic drugs should also be included in this secondary group since these agents are known to alter gamma globulin con-

TABLE 1

CLASSIFICATION OF HYPOGAMMAGLOBULINEMIA

- I. PRIMARY HYPOGAMMAGLOBULINEMIA
  - A. Congenital
  - B. Acquired
- II. SECONDARY HYPOGAMMAGLOBULINEMIA
  - A. Secondary to Reticuloendothelial System Disease
    - 1. Leukemias and Lymphomata
    - 2. Multiple Myeloma
    - 3. Thymoma
  - B. Secondary to Hypoproteinemia
    - 1. Nephrotic Syndrome
    - 2. Starvation
    - 3. Sprue
    - 4. Cirrhosis
    - 5. Irradiation and Effects of Radiomimetic Drugs
- III. PHYSIOLOGIC

centrations and to produce this deficiency.[12] In nephrosis, serum gamma globulin levels are low, but the deficiency is due to increased loss of gamma globulin along with other proteins in the urine.[24] The production of gamma globulin appears to be normal or even increased in the nephrotic patient.[36]

A third group consists of persons with a physiologic hypogammaglobulinemia. An example is the newborn infant who develops a temporary hypogammaglobulinemia. The primary source of gamma globulin in the newborn infant is the protein which has passed from the mother through the placenta. It has also been suggested that the placenta itself may synthesize gamma globulin and this may contribute to the gamma globulin in the newborn.[9, 3] Up to age 6 months there is little gamma globulin synethesized in the infant, and the immune globulin concentration in the newborn infant depends on the amount transferred prior to birth. The gamma globulin level gradually decreases until at the age of 5 to 6 months the infant begins to synthesize gamma globulin. There is normally a period from 6 months up to age 2 years when gamma globulin concentration may become quite low. No definite evidence is available that there is an increased incidence of infection at this time.[4] It has been reported that "congenital hypogammoglobulinemia" may be the result of a persistence in the delay in gamma globulin synthesis in the child.[14]

The most striking clinical finding in hypogammaglobulinemia is repeated bacterial infection. Respiratory tract involvement is most common. Genitourinary tract infections are conspicuous by their absence, and the reason for this is not known. The type of organism or the difference in response of genitourinary and respiratory system tissue to bacterial invasion may be responsible.

A profound immunologic handicap with failure to respond to infection or artificial immunization is a common finding. Many studies[3, 6] have been reported which demonstrate lack of function of globulin against many specific antigens. The agglutination titers in response to typhoid bacillus, paratyphoid bacillus and brucella abortus have constantly been low. It is interesting that heterophile antibody titers in individuals with gamma globulin deficit have been reported negative in otherwise typical cases of infectious mononucleosis. Individuals with hypogammaglobulinemia characteristically have negative skin tests, such as the tuberculin and histoplasmin tests; one patient has been reported with a positive tuberculin test and another with a positive reaction to histoplasmin.[35] The Shick and Dick tests are persistently positive. These findings continued even after repeated exposure to or attempts at immunization. In regard to other skin tests, a positive smallpox vaccination just prior to onset of repeated infections and a diagnosis of hypogammaglobulinemia have been reported in a child.[17] Positive skin reaction to several allergens has been shown in another patient.[3]

Antibody response to viruses may be different from responses to bacteria in patients with hypogammaglobulinemia. Some authors have pointed out that viral infections do not occur with increased frequency in patients with low gamma globulin.[28] Reports, however, of repeated attacks of such diseases as mumps and rubella, that usually give lasting immunity, would seem to challenge this view. In one report[43] the only detectable viral antibodies were for the A.P.C. virus and these were in low titer. The production of viral antibodies has not been extensively studied in patients with this deficiency. An absence of isohemagglutinins against heterologous blood groups has been reported.[5, 36] Wall and his associates have presented case reports on two patients[38] who had type A blood and both lacked anti-B isoagglutinins. This fact may be helpful in diagnosing this disease following routine blood typing. The Coombs' test in patients with hemolytic anemias associated with hypogammaglobulinemia is often negative.

Except for gamma globulin synthesis, protein metabolism seems to be unchanged in most types of hypogammaglobulinemia. The concentration of gamma globulin may be lowered as a result of decreased gamma globulin production, increased utilization, increased loss or a combination of these factors. To date, evidence does not indicate that increased utilization, or increased loss of gamma globulin are significant. The defect seems to be in the formation of inadequate amounts of normally functioning gamma globulin. Good and others[25] have suggested that the disturbance is one involving the mesenchyme, "the hematopoietic reticulum" which manifests itself as a defect or deficiency in plasma cell formation, and consequent failure of antibody production. Janeway[14] has reported a group of patients who have adequate gamma globulin levels, but have manifested the same susceptibility to infection as the hypogammaglobulinemia group demonstrate. This suggests that the defect in this group may be abnormal gamma globulin rather than a mere quantitative deficiency. Gitlin and coworkers[22] have indicated that other globulins may be deficient in these patients to a smaller degree. By using immunologic technics with electrophoresis, globulins that migrate with the beta faction were found to be present in decreased amounts. This alteration, however, is not as marked as the gamma globulin deficiency.

Serum electrophoresis has shown the normal individual to have from 12 to 15 per cent of his total serum proteins in the gamma globulin fraction; this would amount to from 1,000 to 2,100 mg. per cent. Preliminary studies[3] indicate that 150 mg. per cent is the critical serum level for protection against infection; values below this are usually associated with incidence of infections. Janeway and his coworkers,[14] using immunologic technics, have found less than 25 mg. per cent in the so-called "congenital" group and less than 100 mg. per cent in the majority of patients with acquired hypogammaglobulinemia. Normally gamma globulin makes up one half of the globulin fraction.

True agammaglobulinemia probably does not exist.[25, 36] Each patient produces small amounts of gamma globulin. This is demonstrated by the more sensitive immunologic technics.[21] A more precise term is "hypogammaglobulinemia."

The lowered sedimentation rate seen occasionally in these patients may reflect alteration in fibrinogen metabolism. Zinc sulfate turbidity and other serum flocculation tests which depend on gamma globulin are altered. In fact, the zinc sulfate turbidity can be used as a semiquantitative estimate of gamma globulin.[3] A level below one or two units is suggestive of the diagnosis of hypogammaglobulinemia, while normal or elevated levels tend to rule out hypogammaglobulinemia.

Therapy basically includes replacing deficient gamma globulin and maintaining it at near normal levels as possible. The ideal procedure would be to calibrate the half life of gamma globulin for each patient and prescribe maintenance therapy accordingly. The biologic half life of injected gamma globulin is approximately 30 days. The usual dosage suggested is 0.1 mg/Kg body weight every three to four weeks. Some authors[10] believe this is too low and recommend higher doses. Prophylactic antibiotic therapy frequently is used, and the patient should avoid exposure to respiratory infection. Active chemotherapy should be started as soon as an infection occurs.

CASE REPORT

H. R., a 36 year old white male electrician was first seen at Firmin Desloge Hospital in November 1956 complaining of chronic sinusitis. He gave a history of many respiratory infections in the past. He also had several of the childhood diseases, the types not known. There were no allergic manifestations reported by the patient. Other members of his family showed no increased susceptibility to infection. About 15 years previously he had a severe attack of pneumonia, and shortly thereafter developed brucellosis. Subsequently, he has had more frequent upper respiratory infections consisting usually of rhinitis and pharyngitis. During the year prior to admission he had had weekly episodes of fever, malaise and a cough productive of one to one and one-half cups of purulent sputum daily. Treatment with antibiotics had become less effective. Bronchograms revealed cylindrical bronchiectasis in the left lower lobe, and bronchoscopy suggested bilateral suppurative lung disease, involving both lower lobes. Sinus films indicated that the patient had chronic maxillary sinusitis; a bilateral Caldwell Luc procedure had been done on November 30, 1956, because of a severe purulent sinusitis.

The patient did relatively well for the next 10 weeks. He then had a recurrence of his respiratory symptoms which necessitated hospitalization again. He developed another cough which was associated with a purulent, blood-streaked sputum. He also had pleuritic pains in the right anterior and lateral chest areas. His temperature was elevated to 105 F. Examination and roentgenograms revealed a lung abscess in the right middle lobe. The remainder of the examination was normal except for palpability of a few posterior cervical nodes. His white blood cell count was 12,500 with 84 per cent polymorphonuclear neutrophils and 5 per cent stabs. The red cell count, hemoglobin, and hematocrit were normal. The platelet count was 814,000, and the reticulocyte count 0.9 per cent. Bone marrow examination showed generalized hyperplasia, which was predominately of the granulocytic series; plasma cells were present in normal numbers. Liver function studies revealed a 19 per cent retention of bromsulphalein in 30 minutes, after injection, and negative cephalin flocculation and thymol turbidity tests. Zinc sulfate turbidity was 2 units. The total plasma proteins were 6.4 gms. per cent; albumin was 5.1 gms. per cent and the globulin 1.3 gms. per cent. The electrophoretic pattern (Durram method) demonstrating the decreased gamma globulin levels is summarized in table 2. Agglutination studies on three occasions were negative for typhoid O and H, paratyphoid A and B, brucella abortus and proteus Ox19. The heterophile and cold agglutinin titers were negative. The patient was blood type A, Rh+, and had no B-isohemagglutinins. Tuberculin and histoplasmin skin tests were negative. As seen in table 3 all of the siblings had normal gamma globulin levels when checked by electrophoresis in our laboratory.

Serologic studies for the presence of antibodies against a number of strains of influenza virus were carried out on specimens of this patient's serum. The results are shown in table 4. It will be noted that a definite rise in antihemagglutinins occurred against a strain of type B influenza virus isolated by Doctor Dorland Davis in Washington, D. C., in 1955. The titer rose from 1:5 to 1:640 between February 25, 1957 and March 1, 1957. A less striking rise was noted against a strain of A′ virus isolated in our laboratories in St. Louis in 1953, a strain which we believe was still present in this

TABLE 2

ELECTROPHORESIS OF PLASMA PROTEINS OF PATIENT H. R.

Date	*Albumin*	*Alpha*$_1$	*Alpha*$_2$	*Beta*	*Gamma*	*Dose of Gamma Globulin*
Normal	54.74	7.72	11.19	12.28	16.68	
2-25-57	55.87	6.32	20.78	14.52	3.51	
3- 1-57	53.44	6.32	24.02	13.08	3.14	
3-11-57						3.33 gm.
3-12-57						4.33 gm.
3-13-57						3.33 gm.
3-14-57						3.33 gm.
3-15-57						3.33 gm.
3-16-57						3.33 gm.
3-18-57	60.00	5.90	12.00	15.00	7.50	
3-19-57						5.33 gm.
3-20-57	58.02	4.10	14.89	12.98	10.01	5.00 gm.
3-21-57						5.00 gm.
3-22-57	SURGERY					2500 cc. of whol blood
3-24-57	54.14	4.83	19.83	11.7	9.50	
3-27-57						500 cc. of whole blood
3-28-57						500 cc. of whole blood
4- 4-57	63-13	3.04	14.21	9.50	11.12	
5-22-57						3.3 gm.
6- 7-57						3.3 gm.
7- 9-57						3.3 gm.
7-18-57						3.3 gm.
8- 3-57	63.9	4.0	8.2	13.5	10.4	
8-24-57						3.3 gm.
8-31-57						3.3 gm.
9-20-57	70.82	5.55	9.2	9.06	5.55	
10- 5-57						3.3 gm.
10-13-57						3.3 gm.
11-15-57	64.23	3.19	11.60	14.59	6.39	
11-21-57						3.3 gm.
11-30-57						3.3 gm.
1-10-58	66.76	5.08	10.60	10.98	6.58	
2- 4-58						3.3 gm.
2-11-58						3.3 gm.
2-28-58	63.20	8.40	10.80	9.50	8.10	

TABLE 3

ELECTROPHORESIS OF PLASMA PROTEINS OF PATIENT H. R.'S SIBLINGS

Siblings	*Albumin*	*Alpha*$_1$	*Alpha*$_2$	*Beta*	*Gamma*
C	60.5	3.2	8.0	12.0	15.3
L	63.7	3.1	9.3	11.7	12.2
R	61.3	3.9	8.1	10.2	16.5
C	60.3	3.9	9.3	11.6	14.9
Normal	54.75	5.72	11.19	12.28	16.68

area. Low titers of antihemagglutinins are found against a number of other virus strains including two strains of Asian virus.

The initial sputum culture grew Proteus vulgaris organisms. After five days' treatment with 2.4 million units of procaine penicillin and 1 gm. of streptomycin daily, another sputum culture revealed Staphylococcus aureus. It was resistant to all antibiotics by disk sensitivity tests, and erythromycin in a dose of 500 mg. every four hours was added on an empirical basis. Thirty-six grams of gamma globulin was administered intramuscularly in 10 divided doses over a 10 day period. The serum gamma globulin level rose to normal (table 2). Surgical removal of the lung abscess was performed and the patient had an uneventful recovery. After discharge he received 3.3 grams of gamma globulin approximately every three weeks. He has also been on antibiotic therapy and at present is taking 250 mg. erythromycin three times daily. The patient has done well, and has been free of symptoms except for minor upper respiratory infections and one episode of furunculosis. The furunculosis responded to gamma globulin and antibiotic therapy.

TABLE 4

VIRUS AGGLUTINATION STUDIES

Date	*Swine*	*Type A PR 8*	*Type A′ St.L. 53-1*	*Type A′ Denver-57*	*Asian Jap. 395-57*	*Asian St.L. 57-1*	*Type B Lee 1940*	*Type B D.C. 55*	*Type C J.J.*	*Type D Sendai*
2-25-57	—	0	0	—	—	—	—	1:5	—	—
3-1-57	0	—	1:40	1:10	1:5	1:10	0	1:640	1:20	0
3-18-57	1:5	—	1:5	1:20	—	—	—	1:20	1:40	—
1-10-58	1:5	1:20	1:10	0	1:5	1:5	1:5	—	1:5	0
2-28-58	1:5	1:20	—	0	0	1:10	1:5	—	1:5	0
8-21-58	—	—	—	0	0	0	—	—	—	0

DISCUSSION

The patient presented had a low serum gamma globulin level and a history of repeated respiratory infections, including the later development of a lung abscess. The lack of a family history of hypogammaglobulinemia added to the failure to demonstrate any possible secondary factors responsible for this abnormality strongly suggested that the patient belonged in the classification of acquired hypogammaglobulinemia. The exacerbation of the patient's respiratory symptoms which occurred about the middle of February 1957 coincided closely with the appearance of influenza in various parts of the country with the isolation of a new strain of A′ influenza virus by Meiklejohn in Colorado,[44] and the observation of type B influenza by the California Department of Health. Also, shortly after this, Asian influenza appeared in epidemic form in the Far East and later spread to this country. This epidemic presented a good opportunity to study the patient's serum for antihemagglutinins against several strains of influenza virus, particularly since viral antibody production has not been extensively studied in patients with hypogammaglobulinemia. The serologic findings indicated that this patient was able to produce at least one type of influenza virus antibody in spite of low level of gamma globulin. A definite elevation in antihemaglutinins was determined for a strain of type B influenza virus. Studies in our laboratory have shown that this strain of type B virus was present in the St. Louis area at that time. Less striking elevations were noted against an A′ virus strain and this, likewise, was probably present in this locality. Minor rises in titers of antibodies against other viral strains were found at other times during the period of observation when the patient received gamma globulin injections as part of his therapy. It is possible that viral antibodies were present in the injected material to cause some of these alterations in titer making interpretation of these latter results difficult.

SUMMARY

Hypogammaglobulinemia, probably of the acquired type, arising in a 36 year old white male

has been reported and the pertinent literature reviewed. In this case, the patient retained the ability to increase the titer of antihemagglutinins against at least one strain of influenza virus. Subsequent therapy and a one year follow-up of this patient have also been recorded.

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Epidermoid Cyst of the Spleen

Case Report

This single case of epidermoid splenic cyst is presented since the exact diagnosis was made preoperatively. Splenic epidermoid cysts were first reported in 1933 by Shawan.[2] Since then several cases have been reported. Allen[1] in 1961 made an excellent review of the literature and added three cases of his own. Epidermoid cysts of the spleen are rare; however, familiarity with the typical history and roentgenologic findings permits a strong suggestion of the proper diagnosis. There is paucity in the world literature of reported cases in which the correct diagnosis was suggested preoperatively on the basis of the history and roentgenologic findings. It is, therefore, the purpose of this paper to reemphasize the characteristic roentgenologic features of this entity and add another case to the literature.

A case of epidermoid cyst of the spleen in a 16 year old boy in whom the diagnosis was made preoperatively on the basis of the typical history and characteristic roentgenologic findings is reported.

Dr. Lambie is resident in the Department of Radiology; Dr. Rubin is radiologist and Dr. Halperin is chairman of the Department of Surgery, Menorah Medical Center, Kansas City.

Report of a Case

W. H., a 16 year old white male, was admitted with the chief complaint of dull left upper quadrant pain and pain in the right thigh following a fall from his bicycle earlier in the day. He also thought that his abdomen was distended a little more than usual. Two years previously he had gone out for track, but dropped out because of shortness of breath on exertion. He attributed his shortness of breath to smoking. He also noted about that same time that his abdomen was enlarging slightly, but thought he was just becoming fat. There was no past history of pain, gastrointestinal or genitourinary symptoms. Parents and relatives had thought the boy to be in excellent health prior to the accident and had noted nothing unusual about his bodily build.

On examination the patient appeared well and in no acute distress. The pulse, respiration and temperature were normal. Blood pressure was 130/88. Examination of the abdomen revealed a large ovoid mass filling the whole upper abdomen and extending down to the left iliac crest (fig. 1). There was minimal tenderness of the mass on palpation and it appeared smooth and cystic in nature. The rest of the physical examination was normal except for a bruise on the right thigh. Laboratory work revealed a 3+ albuminuria with occasional red blood cells, three to five white blood cells with clumps and granular casts. White blood count was 4,300 with an essentially normal differential. Hemoglobin was 11.6 grams 75 per cent, Hematocrit 39 and a blood urea nitrogen of 15.

Fig. 1. Lateral photograph of the patient showing the outline of the large palpable abdominal mass.

Roentgen examination of the abdomen revealed a large soft tissue mass of fairly uniform density which filled almost the entire upper abdomen and extended down to the iliac crests (figs. 2 and 3). The outline of the spleen and psoas shadows were not made out on these roentgenograms. The gas-filled colon was displaced downward. The stomach was displaced to the right side of the abdomen and on the lateral roentgenogram the mass indented the anterior margin of the stomach. A posterior-anterior view of the chest (fig. 4) showed slight elevation of both diaphragms, but more so on the left. An upper gastrointestinal examination (figs. 5 and 6) substantiated the interpretation of the plain films.

A 10 minute intravenous pyelogram showed good filling of an anatomically normal right kidney, but no visualization of the left. A delayed 25 minute

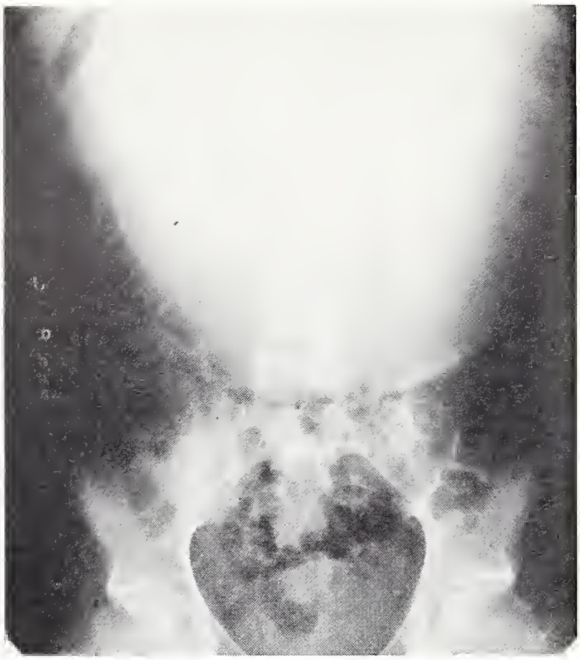

Fig. 2. Anterior-posterior roentgenogram of the abdomen showing a large soft tissue mass filling almost the entire abdomen. Note the stomach is displaced to the right side of the abdomen and the transverse colon displaced downward. The psoas shadows are not made out.

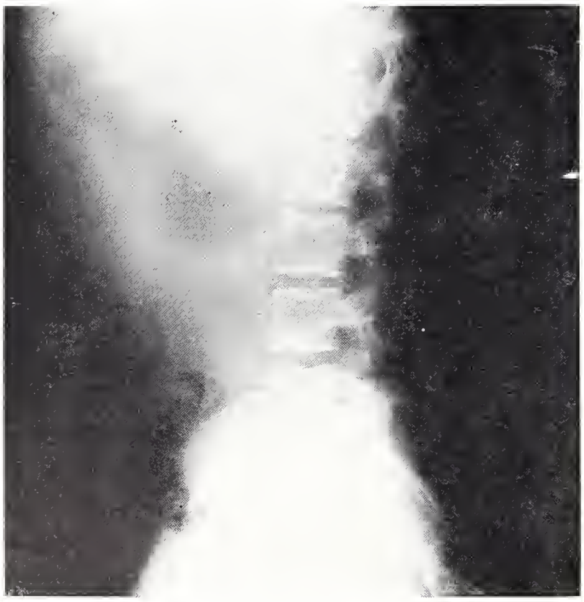

Fig. 3. Lateral intravenous pyelogram shows a mass indenting the anterior margin of the air filled stomach.

film (fig. 7) showed a slight amount of dye in the calyces and pelvis of the left kidney which was displaced downward.

At laparotomy a large cystic reddish-brown mass was found. Off to one edge of this cystic mass, a fetal lobulated spleen could be identified (fig. 8). The specimen was removed in toto and measured 30 by 27 by 16 cm., and weighed 16 pounds. An accessory spleen measuring 1.5 cm. in greatest diameter was found close to the hilum of the spleen.

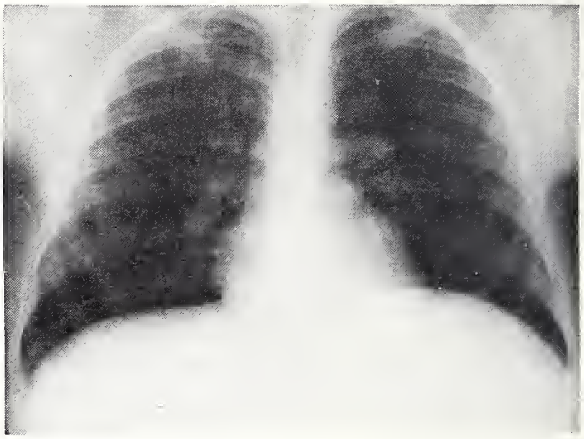

Fig. 4. Posterior-anterior chest roentgenogram shows elevation of both diaphragms, but more so on the left.

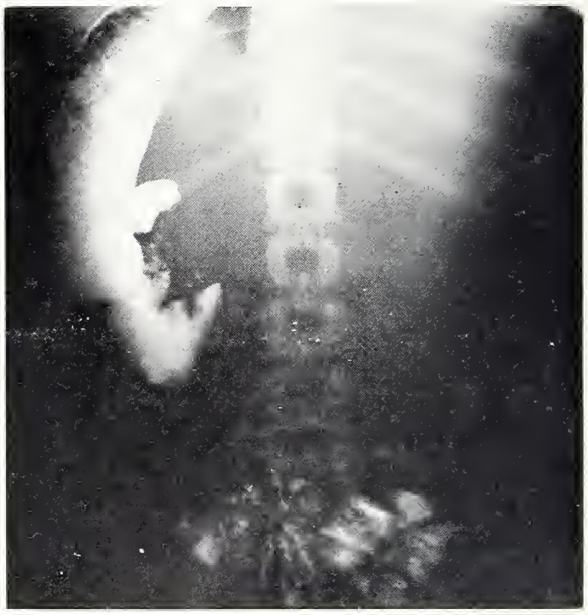

Fig. 5. Anterior-posterior roentgenogram of the barium filled stomach confirming the plain film interpretation of figure 2.

On section, the specimen consisted of a large unilocular cyst filled with 5,500 cc. of thin chocolate brown fluid. Microscopic examination revealed a fibrous wall lined with several layers of stratified squamous epithelium. No keratin or accessory dermal structures were found and the specimen was diagnosed as an epidermoid cyst of the spleen. The patient had an uneventful postoperative course and was discharged from the hospital nine days following surgery.

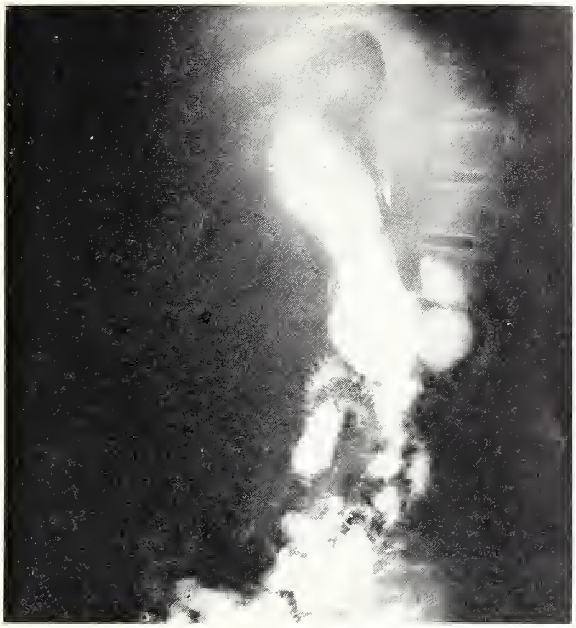

Fig. 6. Lateral roentgenogram of the barium filled stomach confirming the plain film interpretation of figure 3.

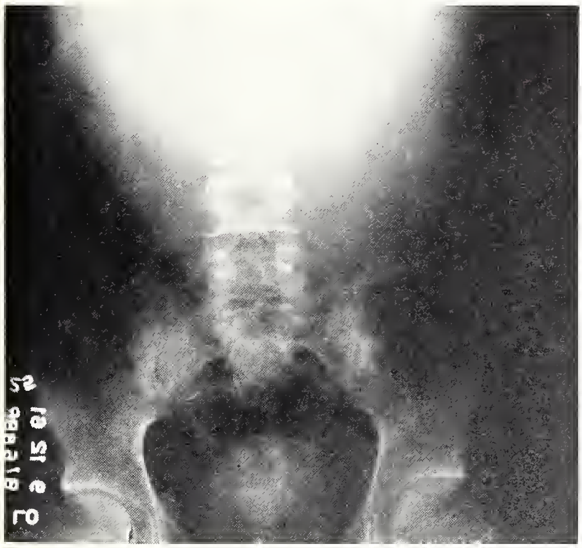

Fig. 7. Twenty-five minute intravenous pyelogram showing a downward displacement of the left kidney with distorted calyces.

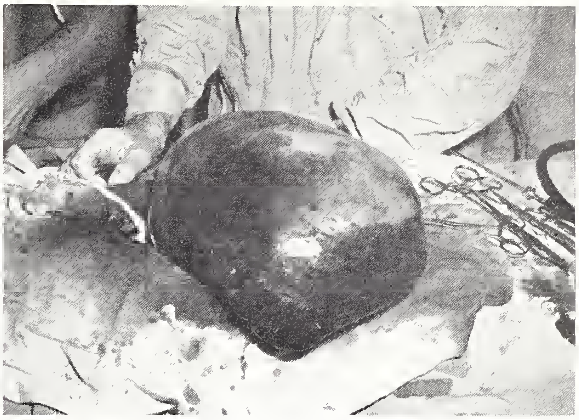

Fig. 8. Photograph taken at surgery showing the large splenic mass. A fetal lobulated spleen can be identified off to one edge of the cystic mass.

DISCUSSION

Epidermoid cysts of the spleen are fairly rare, however, with the typical history and proper roentgenologic approach the diagnosis should be made preoperatively. Epidermoid splenic cysts usually occur in children under 20 years of age who are healthy and have few if any symptoms. Symptoms are usually mild and consist of mild mid-epigastric fullness, mild dull abdominal pain, shortness of breath and occasional urinary symptoms. An occasional history of decreased appetite, but progressive weight gain may be obtained. Because of their symptomless nature and slow growth, epidermoid cysts of the spleen are usually found late when they are of enormous size. The patients usually present themselves following minor trauma and complain of mild epigastric pain.

Physical findings are minimal and consist of slight abdominal distention and presence of a palpable mass which appears to originate in the left upper quadrant of the abdomen.

The classical roentgenologic picture is that of a large soft tissue mass originating in the left upper quadrant. On the plain films the stomach is displaced to the right and the mass is seen to be anterior to the stomach. The mass may indent the anterior wall of the stomach as it did in this case. The transverse and splenic flexure of the colon are displaced downward and occasionally to the right. The splenic shadow is never made out and the psoas shadows may or may not be seen. Confirmation of the displaced organs may be obtained by an upper gastro-intestinal examination with barium. Depending upon the size of the mass, the left diaphragm may or may not be elevated. An intravenous pyelogram should be done and may be normal. However, if the mass is large, the kidney may be displaced upward or more frequently downward. A delay in filling and distorted calyceal pattern may be seen as a result of pressure from the mass.

Many other conditions can cause a mass in the left upper quadrant of the abdomen and

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L. H. HARTLEY, M.D., ***and*** **J. F. LOWNEY, M.D.,** ***Columbia***

Thrombotic Thrombocytopenic Purpura

THROMBOTIC thrombocytopenic purpura is characterized by fever, anemia, thrombocytopenia, central nervous system dysfunction, renal disease and the presence of hyaline thrombi in the arterioles and capillaries of almost every organ. There are sometimes vague complaints of lethargy, headache, joint pain, abdominal pain and respiratory tract infections prior to the onset of the classic syndrome, but these are not consistently noted. One consistent feature is the malignant downhill course. Although any of the classical manifestations may be absent, or appear only terminally, there usually are sufficient reasons to arouse suspicion early in the disease and allow the diagnosis to be made by biopsy. The following case report is illustrative.

The usual manifestations of thrombotic thrombocytopenic purpura are discussed and a case is reported. The finding of abnormally shaped red blood cells and the importance of lymph node biopsy in the diagnosis are emphasized.

Dr. Hartley is Resident in Medicine in the Department of Medicine and Dr. Lowney is Assistant Professor of Medicine and Director of Research Hematology at the University of Missouri School of Medicine, Columbia.

CASE REPORT

N. A., No. 03-69-59. A 60 year old white female was admitted to the University Hospital on January 20, 1962 with the chief complaint of headaches and "wobbling episodes" for more than two years. Since about September of 1960, the patient complained of weekly occurrence of severe frontal headaches, diplopia and vertigo. Two weeks prior to admission, she developed an upper respiratory tract infection with nausea and vomiting. Two days prior to admission, she developed numbness and paresthesias of her right hand and forearm. On admission, the general physical examination was normal except for a slight icterus, a grade II systolic murmur and hepatomegaly with a liver edge descending three fingerbreaths below the right costal margin. On neurologic examinations, some slurring of the speech was noted, cranial nerves were intact and reflexes were equal bilaterally. Chest and skull x-rays on admission were normal. Admission laboratory work included a hemoglobin, 8.5 gm. per cent; hematocrit, 24 per cent; white cell count; 8,600; and total bilirubin, 2.5 mg. per cent of which .4 mg. per cent was direct reacting. The BUN was 28 mg. per cent and the laboratory work was otherwise normal including a total serum protein and AG ratio. The patient had a low grade fever during the entire hospital course. She had one episode of flaccid paralysis of the right arm and one episode of paralysis of both arms with aphasia. On the third hospital day, a few purpura were noted, and repeat laboratory data included hemoglobin, 7 gm. per cent; hematocrit, 21 per cent; white cell count, 11,800; reticulocyte count, 12.2 per cent; platelet count, 18,000; and negative Coombs' test. A lumbar puncture was done and was normal. A clinical diagnosis of thrombotic thrombocytopenic purpura was made, and prednisone, 15 mg. every six hours, was begun. Before a bone marrow and lymph node biopsy could be obtained, the patient developed athetoid purposeless movements of the upper extremities, conjugate deviation of the eyes to the right, and increasing restlessness, and she expired on 3:30 p.m. of her fifth hospital day. Permission for a complete autopsy was not granted; however, a lymph node biopsy and bone marrow biopsy were done immediately after death. The lymph node showed numerous hyaline thrombi in the arterioles, some completely hyaline (fig. 1a and b) and other showing evidence of organization (fig. 1c). The bone marrow revealed a marked erythroid hyperplasia and also a number of "helmet" cells and star-shaped cells (figs. 2 and 3). Hyaline thrombi could be seen in the vessels of the bone marrow sections. Spherocytes were seen both in the bone marrow and on the peripheral smear.

DISCUSSION

In 1925, Moschcowitz who first described the disease believed the multiple hyaline thrombi were agglutinated red blood cells;[1] however, Baehr later demonstrated that iron and hence hemoglobin was absent from the lesions.[2] More recent experiments utilizing fluorescein labeled rabbit anti-sera suggests strongly that considerable fibrin is present and that platelets are absent from the lesions.[3] Furthermore, there are suggestions that the hyaline material originates in the vessel wall and, hence, primary vascular disease is the principal problem.[4] The presence of widespread vascular disease suggests a relationship between the connective tissue dis-

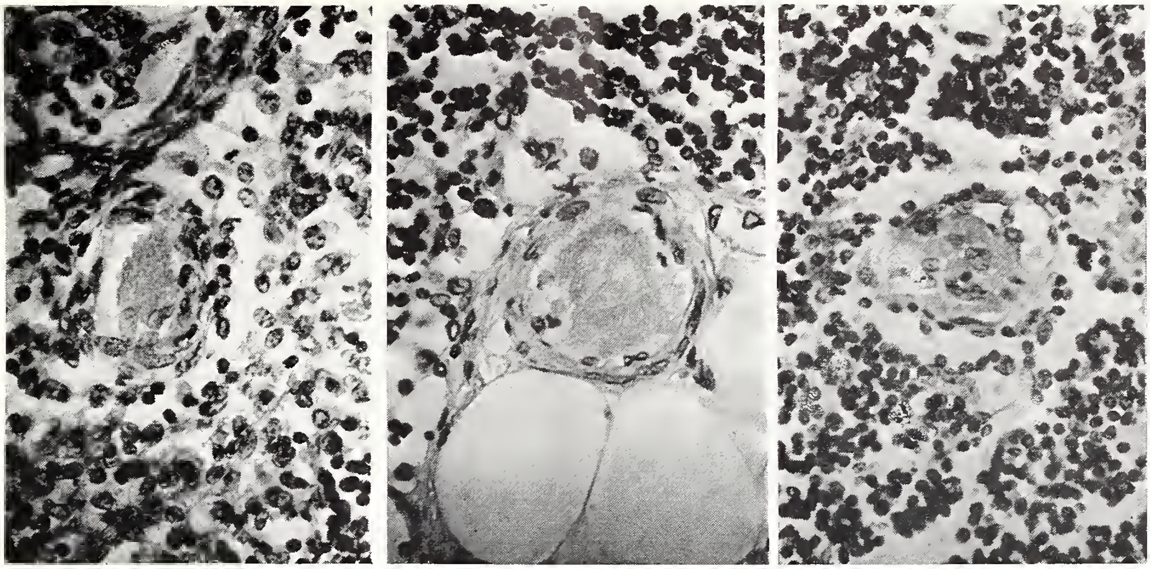

Fig. 1. A and B. The lymph node showed numerous hyaline thrombi in the arterioles, some completely hyaline. C. Others showed evidence of organization.

eases and thrombotic thrombocytopenic purpura but this relationship is controversial.

The hematologic picture consists of anemia, leukocytosis and thrombocytopenia. The anemia is probably hemolytic in nature in view of the increased serum bilirubin, increased urine urobilinogen, increased fecal urobilinogen, reticulocytosis and erythroid hyperplasia of the bone marrow. Osmotic fragility is usually normal, and the Coombs' test is almost invariably negative. Spherocytes are seen, and abnormally shaped red blood cells on the peripheral smear have been noted.[5] Some of these have been referred to as "helmet cells" and are similar to those noted in this report; however, their exact cause is not known. These cells may be seen in other diseases such as carcinoma and liver disease. The leukocytosis which sometimes reaches leukemoid proportions is probably either a response to the acute illness or to the hemolytic anemia. Although anemia, leukocytosis and thrombocytopenia are usually seen, the thrombocytopenia may not be present until the near terminal state.

The central nervous system symptoms and signs are usually nonlocalizing and are frequently evanescent. They may antedate the thrombocytopenia or may not appear until near death. The cerebrospinal fluid is usually normal, but when altered the cells and protein may be slightly elevated. Histologically the vascular lesions are the same in this system as elsewhere in the body. Clinical manifestations are nonspecific and

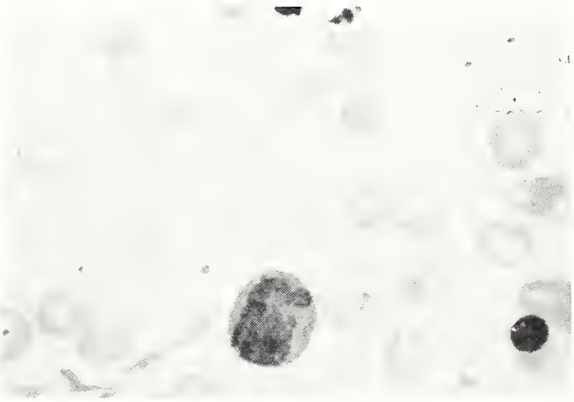

Fig. 2. Area of bone marrow showing "helmet" shaped erythrocytes.

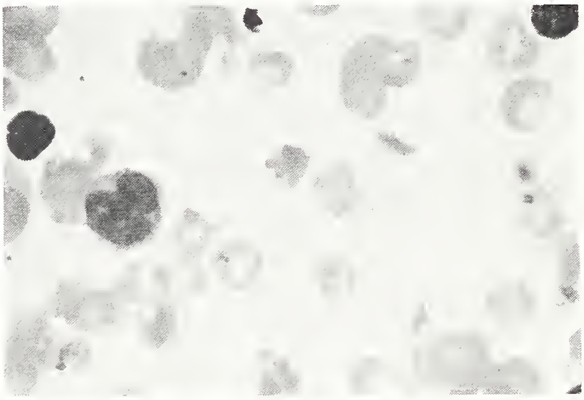

Fig. 3. Bone marrow showing marked variation in the size and shape of the erythrocytes.

nonlocalizing such as dizziness, delirium, confusion, coma, aphasia, apraxia and muscular paralysis. There are also occasionally seen long standing neurologic complaints as in the case reported; however, these are difficult to definitely relate to the acute illness. Renal involvement is common and albuminuria, casts, hematuria and azotemia are seen. To the knowledge of the authors no case was reported in which death could be attributed to uremia, but this is not surprising in view of the fulminant course of the disease.

The widespread distribution of the lesions makes it evident that it lends itself to biopsy diagnosis. Although muscle is not noted to be as laden with the lesions as other organs, it has provided the diagnosis. In a recent review of five cases, with carefully done autopsies, lesions were most numerous in lymph nodes, spleen and kidney.[6] It was suggested that lymph node be the first site for biopsy. It should be noted that as in the case reported, the lymph nodes may not be enlarged. Examination of the paraffin section of the bone marrow can reveal the diagnosis as in the reported case, although this is said to be uncommon.

Treatment is certainly unsatisfactory and the prognosis of the disease even with treatment is poor. Steroid administration and splenectomy are currently the most popular modes of treatment. Evaluation with these agents is difficult because of the scarcity of cases. However, large doses of steroids have induced remissions. Splenectomy never should be used as a first resort; however, splenectomy is justified in cases not responding to large doses of steroids.

SUMMARY

A case report of thrombotic thrombocytopenic purpura is presented. Usual manifestations of anemia, thrombocytopenia, central nervous system disease, renal disease and hyaline thrombi are discussed. The finding of abnormally shaped red blood cells and the importance of lymph node biopsy in the diagnosis are emphasized.

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EPIDERMOID CYST OF THE SPLEEN

(Continued from page 29)

must be taken into consideration in a differential diagnosis. If the plain films of the abdomen show the mass to be anterior to the stomach and not retroperitoneal, this alone excludes retroperitoneal tumors and masses of kidney and adrenal origin. A mass originating in the left upper quadrant which lies anterior to the stomach and displaces the stomach to the right and the colon downward is almost always splenic in origin. Omental and mesenteric cysts may do this, but are usually movable and do not extend as far to the left side. Pancreatic cysts and tumors as a rule are smaller and can be ruled out on history, laboratory findings and displacement of adjacent organs. Splenomegaly due to parasitic infiltrations, acute infections, leukemia and such can usually be ruled out on history and positive laboratory findings.

SUMMARY

A case of epidermoid cyst of the spleen in a 16 year old boy is reported. The exact diagnosis was suggested preoperatively on the basis of the typical history and characteristic roentgenologic findings. Although fairly rare, epidermoid cyst of the spleen should be considered in any child with few or no symptoms who presents with an abdominal mass which appears to originate from the left upper quadrant. Patients with epidermoid cyst of the spleen frequently present themselves following minor trauma and complain of only mild epigastric pain. It is interesting to note the enormous size that these cysts may attain before the patient or relatives become aware of their presence.

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We are indebted to Robert Trethewey for the excellent photographs used in this case report.

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Aneurysms of the Splenic Artery

A series of 12 cases of aneurysms of the splenic artery during the last six years is reported, together with a review of the literature and discussion of diagnosis and treatment.

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ANEURYSMS of the splenic artery have recently attracted new clinical interest by virtue of an increased awareness of their radiographic appearance and their potential danger to the patient. This paper represents a review of this subject and includes the experience at the University of Missouri with this entity.

REVIEW OF THE LITERATURE

Aneurysm of the splenic artery was first reported by Beaussier in 1770.[1] Originally believed to represent a rare occurrence, splenic artery aneurysms are now being found with increasing frequency. To date, approximately 300 cases have been reported.

The most authoritative paper on this subject to date is that of Owens and Coffey[1] based on a series of 204 cases. They reported an incidence of .038 per cent in 96,741 autopsies. The female to male ratio of their collected cases was two to one with an average of 40 years. The mortality related to the aneurysms in this series was 46 per cent. One hundred twenty-four of their patients presented symptoms believed referable to the aneurysm. Seventy-six per cent of these symptomatic patients died as a result of their aneurysms. Of the 204 patients in the series, 64 were operated on, 49 of these being operations specifically for the aneurysms. The mortality of the entire group of 64 patients subjected to surgery was 51 per cent, while the corresponding mortality for the group operated on for aneurysm was 39 per cent.

The patients with splenic artery aneurysms who were operated on before rupture had occurred showed a mortality rate of 29 per cent. In the group of patients who were operated on after rupture had occurred the mortality rose to 76 per cent.

Bedford and Lodge[2] recorded a 10.4 per cent incidence of splenic artery aneurysm in a series of 250 consecutive routine autopsies, at which time this condition was specifically searched for. The female to male ratio in their group was one and seven-tenths to one. All the aneurysms were symptomless and unsuspected. The average age of this group was 76.4 years.

Spittel et al.,[3] in 1961 reported 61 cases, 46 of which were found at autopsy and 15 diagnosed preoperatively (with appropriate symptoms). The female to male ratio was five to one. Seventy-five per cent of these patients were between 50 and 75 years of age. Thirteen of the 15 showed calcification in the aneurysm radiographically and all were proven by aortography. Splenectomy and excision of the aneurysm was performed in 11 cases and excision of the aneurysm alone in two cases. One aneurysm was inoperable. There was one postoperative death from pulmonary embolism.

PRESENT SERIES

We have collected a series of 12 patients with splenic artery aneurysms discovered between the years 1956 to 1962. All of these have shown characteristic calcific densities in the left upper quadrant. Two of these patients had confirmatory aortography and underwent successful splenectomy and excision of the aneurysm.

The average age of this group of patients was 62.8 years with a female to male ratio of five to one. Only one of these patients had symptoms referable to the aneurysm, these being abdominal pain and nausea without vomiting. In the remainder of patients the diagnosis was an incidental radiographic finding.

DISCUSSION

It is evident that the true incidence of aneurysm of the splenic artery is not well established. We believe that with the increasing awareness of the characteristic radiographic appearance of this lesion the case finding will be markedly increased.

These aneurysms are demonstrable radiographically as well defined calcific ring-like shadow in the left upper quadrant of the abdomen (fig. 1). The calcific ring may be complete or may show interruption at the point of origin from the main artery. The calcific ring can usually be distinguished from the more commonly seen calcification of the entire splenic artery (fig. 2). Aortography may demonstrate these lesions to better advantage (fig. 3), but this additional procedure is not usually required when the characteristic calcified lesion is seen.

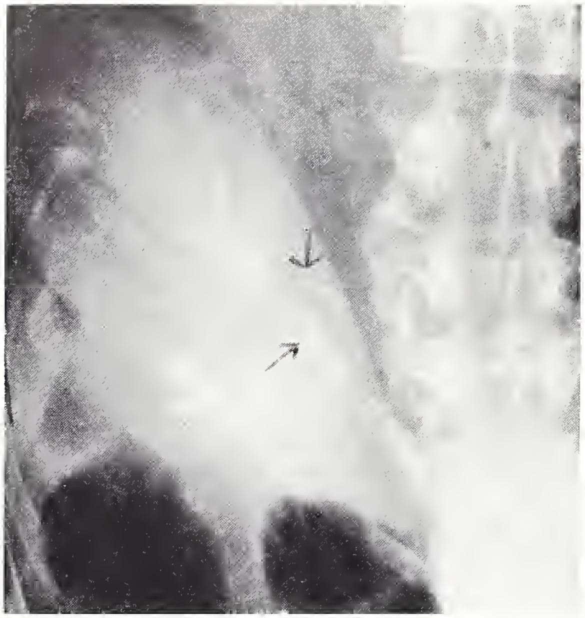

Fig. 1. Characteristic roentgen appearance of splenic artery aneurysm.

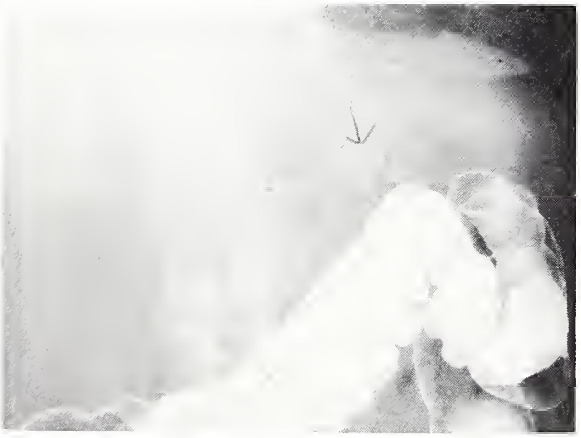

Fig. 2. Characteristic appearance of tortuous and calcified splenic artery.

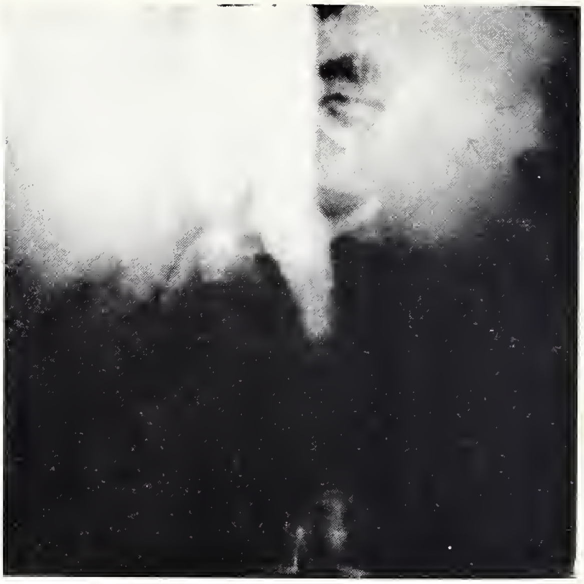

Fig. 3. Aortogram showing thrombus-filled artery aneurysm.

It is necessary to differentiate the splenic artery aneurysm from simple calcification of the entire vessel, calcified lymph nodes, renal artery aneurysm and calcified cysts of the spleen, kidney or adrenal gland.

The etiology of splenic artery aneurysms is predominantly arteriosclerosis with congenital etiology and embolization being of secondary importance. Portal hypertension is occasionally related to their development. Histologically the findings are those of arteriosclerosis with medial degeneration or absence of the media in the aneurysm.

The clinical manifestations and physical findings are at best vague, with abdominal pain, gastrointestinal complaints and splenomegaly being chief among them. A pulsatile mass or systolic bruit in the left upper quadrant will suggest the diagnosis by physical examination. This diagnosis should be considered when unexplained gastrointestinal bleeding or shock of unknown etiology occurs.

Experience, to date, indicates that once rupture of a splenic artery aneurysm has occurred, the prognosis is seriously affected adversely. This in turn would suggest that when the splenic artery aneurysm is discovered surgical excision should be seriously contemplated. Since these lesions are usually discovered in the elderly, such a surgical undertaking must, of course, be considered in relationship to the age and general

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D. P. DURAND, Ph.D., *and* **J. T. BARRETT, Ph.D.,** *Columbia*

Immunity and Virus Diseases

Present knowledge and theories concerning immunity and the virus diseases are discussed.

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NONSPECIFIC RESISTANCE TO VIRUSES

MAN IS COMPLETELY resistant to a host of virus infections of domestic and wild animals, although there are certain examples of cross species susceptibility. This specificity is understandable since virus infections are associated with a particular group of agents which are unique in respect to their biological characteristics. The causative agents of viral infections differ radically from other pathogenic organisms in their mode of multiplication within select cells of the body. Thus for man or animals to be susceptible to virus disease there must exist cells which will support their reproduction.

The obligatory intracellular parasitism associated with virus infections is also related to the observation that viruses reproduce best in cells which are at their height of physiologic function and metabolism. In fact, many metabolic stimulators do not reduce the activity of virus infections but, to the contrary, enhance the disease. It is also noted that the lowering of the general well-being of laboratory animals does not intensify virus disease but diminishes the degree of reproduction of the virus in these organisms. An exception is noted in the stimulation of virus disease in individuals treated with x-rays.

What are the causes of these protective mechanisms leading to complete extinction of virus in nonsusceptible organisms or differences in the severity of infection of different susceptible organisms? Natural susceptibility and resistance at the genetic level is probably a reflection of the absence of particular cell types. Virus-cell interaction is intimate and only slight differences in the host enzyme complexes can change complete replication to incomplete replication of virus particles.

Even though essentially the same genetic potential is present in a host population the environment can influence the expression of virus replication. Metabolic stimulators sharply increase the susceptibility of animals to certain virus infections. An example is the increased susceptibility of monkeys and mice to poliomyelitis and to influenza respectively when under ACTH therapy. The effect of age exemplified by coxsackie virus infections of only young mice is worthy of mention, but here also adult mice can be rendered fully susceptible to coxsackie virus if treated with cortisone.

Normal body temperature should be considered in reference to environmental effects since temperature effects can lead to thermal denaturation of viruses, regulate virus reproduction and play an important role in species differences in virus susceptibility. Not only is "normal" body temperature of importance but development of fever in virus infections certainly can play a role in the course of disease. A one or two degree change from the optimum temperature for virus multiplication can lead to direct inactivation of extracellular virus as well as a modification of intracellular multiplication mechanisms. Both these events lead to a reduction of total virus produced shifting the course of disease to favor recovery of the host.

Other normal mechanisms of immunity to virus disease can be related to the presence of virus inhibitors of normal serum such as properdin present in many mammalian hosts. Other normal inhibitors are not related to properdin yet do bind virus before the susceptible cells are reached. The role of phagocytic activity must be mentioned in reference to virus diseases, since it may lead to elimination of virus or mechanical separation of virus from target cells. Evidence apparently points to the absence of any significant role for phagocytic factors in destruction of animal viruses. In fact, phagocytic cells may lead to transport of virus to target cells.

ACQUIRED IMMUNITY

Although the term "acquired immunity" generally refers to the development of antibodies following infection, there are other types of acquired immunity which are associated with the interference phenomenon. Interference is deserving of a detailed consideration because of its possible importance in recovery from virus infection. Concurrent infection of a host cell with two different viruses may lead to one or more of the following expressions: (1) both viruses may multiply independently in any single cell or in different cells of the same organism (dual infection); (2) the viruses undergo genetic interaction and produce progeny with some characteristics of each parent (genetic recombination); (3) the viruses may undergo physical interaction so that new progeny with properties that are transitory are produced (phenotypic mixing), and (4) one virus may so modify cells that a second virus cannot multiply normally (interference).

Early in the study of diseases caused by viruses, especially laboratory studies, it was observed that infection with one virus mitigated the severity of the disease produced by another virus. These phenomena were associated with mechanisms other than classic humoral forms of immunity. The three major parameters used to measure interference are (1) inhibition of multiplication, (2) suppression of injury or the suppression of disease and (3) suppression of immunologic response. There are many examples of heterologous viral pairs, which lead to one or more types of interference. One example; when influenza virus was added to chick embryos, which were later challenged with another virus such as mumps virus, suppression of mumps virus multiplication was observed. Studies utilizing unrelated viruses are much easier to manipulate since the ability to detect multiplication of one virus in the presence of the other is relatively easy.

The demonstration of homologous interference (interference between related viruses) in animals generally depends on a difference in virulence between the two related viruses and, in this case, is much more difficult to detect than for heterologous pairs. A majority of the investigations either with homologous or heterologous virus pairs that have been reported have used ultraviolet light inactivated virus. This has led to some understanding of the basic mechanisms but has been hampered by the use of complex hosts in many of these experimental endeavors. To offset the disadvantages associated with the use of complex hosts and to study interference at the level at which it occurs (at the cell level) the technics of tissue culture have been explored. These studies of interference with active or inactive homologous or heterologous viruses have demonstrated that tissue culture could be used more convincingly than animals.

The site of viral interference has been fairly well established and the experimental evidence is overwhelmingly in favor of the view that inhibitory activity must be at an intracellular phase of virus multiplication. The most important evidence for this statement is that heated, inactivated virus, devoid of any ability to modify cell membranes, is an effective interfering agent. Although this phenomenon has been studied extensively there is still inability to resolve the conflicting reports and at best one can now only postulate different mechanisms of interference caused by viable virus as opposed to interference established by inactive virus. It may be that interference with active virus is established through direct competition with intracellular constituents whereas inactive virus may interfere by stimulating cells to form interfering substances other than virus. This last statement is supported by the discovery that inactive viruses direct cells to produce soluble interfering substances which are not related to virus but which can render other cells incapable of supporting virus replication. These substances have been called interferons.

Interferon is produced in the cytoplasm of cells in response to inactive virus nucleic acid and when adsorbed by other cells prevents active virus replication. The mechanism is apparently related to uncoupling of a chemical reaction within the nucleus of the cell.

The possibility of interferon as a chemotherapeutic agent for virus disease has been entertained hopefully by some workers, but its species specificity is a drawback to its usefulness in man. Unfortunately interferon produced in the chicken embryo has little protective effect for cells of other hosts.

Circulating antibody also plays an important role in resistance to viral infections. It can be demonstrated that a person who has recovered from a virus disease has serum antibody which will neutralize the infective ability of virus for laboratory animals or tissue cultures. This neutralizing antibody renders the virus noninfectious by direct combination with the virus particle and not through modification of host cells as in interference. As there is little or no evidence that antibody enters viable host cells neutralization of virus must be an extracellular phenomenon. Consequently, immunity depends upon the proper concentration of circulating antibody combining with and neutralizing the virus before infection of a susceptible cell. Conceivably the development of antibody during viral infections might prevent the spread of virus to distant sites but antibody does not appear quickly enough during the disease process to act effectively in this manner. Passive immunization can be helpful but if delayed until symptoms appear does not modify the course of the viral disease.

Humoral antibody is ineffective in preventing the spread of certain viruses from an infected cell to a neighboring normal cell. There is adequate evidence such as with vaccinia virus to demonstrate that cell to cell transfer occurs with little virus liberation into intercellular fluids. This also occurs in herpes simplex infections as herpes infections exist concurrently with high titers of circulating antibody. An alternative explanation is that latent virus is antigenically distinct from its infectious form but even here it is difficult to explain why the noninfectious form does not stimulate antibody formation upon its release during death of latently infected cells.

Further discussion of the role of antibody in immunity to virus disease is facilitated if virus diseases are divided into those for which immunity is of short duration as opposed to those for which immunity lasts many years. For the first instance there are such examples as the common cold, trachoma and influenza. The principal features of these diseases are the localization of the viruses in "external" host tissues, the absence of viremia and a short incubation period. Because of the superficial nature of the infection it has been presumed the short duration of immunity results from failure of the antibody forming tissues of the host to receive adequate stimulus. However, there is considerable evidence refuting this argument derived from a restudy of immunity to the influenza virus, especially the Asian strain. Immediately after the isolation of the Asian strain in Singapore and before the pandemic spread to Europe, sera were collected from different age groups of Europeans. When these sera were assayed for reactivity with the Asian strain no positive sera were found in adults less than 30 years of age. The age group with the highest incidence of neutralizing antibody was the aged, over 85 years. It has been suggested these older persons acquired their antibodies from the influenza pandemic of 1889-90 which also originated in Asia. Thus it can be presumed that even "superficial" influenza infections induce an antibody response which may persist for 60 years.

Repeated attacks of influenza probably arise from antigenic differences in the virus rather than loss of immunity by the host. The isolation of a large number of the influenza strains with slightly different antigenic composition supports this hypothesis. Repeated isolation of new respiratory viruses which cause symptoms of the common cold also implicates viral mutation as the cause of short term immunity. Similar studies with trachoma virus are not yet available.

For those diseases associated with an extended duration of immunity there is generally observed a lengthy incubation period accompanied by virus invasion of deep seated organs or tissues such as the liver or central nervous system. Because of the long incubation period with the passage of the virus through many tissues before it reaches its target cells a high titer of neutralizing antibody is expected following the primary infection. Maintenance of a protective level of circulating antibody is easily explained in areas in which the virus is endemic, such as with measles, mumps and poliomyelitis. This is more difficult to envision for regional viruses such as yellow fever. Even in this case immunity has been known to persist for from 50 to 60 years outside the endemic area. It has been suggested for such situations that a noninfective form of virus persists in the individual which accounts for long term immunity. As has been demonstrated in the case of measles epidemics in isolated island populations neutralizing antibody persists for many years after infection but the complement fixing antibody disappears quickly. Complement fixing antibody is thus an index of recent infection and if latent or recurrent infections were necessary for long term measles immunity this antibody would be present. Since it is not, this hypothesis is negated.

From a study of hypogammaglobulinemia it is apparent that circulating antibody cannot be the sole cause for recovery from and resistance to virus diseases. Persons with this "antibody deficiency disease" are notably susceptible to repeated attacks of rather ordinary bacterial diseases which may be life threatening. On the contrary viral diseases pass their normal course including the development of an adequate immunity. Not all forms of immune response are lost by these globulinemics as it has been possible to induce and provoke most of the delayed hypersensitive responses to drugs and extracts of microorganisms in these persons in the same way as normal persons. As a consequence of these findings a role for delayed hypersensitivity in resistance to viral disease is suggested. Actually Jenner was the first to describe this condition resulting from injections of cowpox vaccine. By chemical and radiation treatment of laboratory animals the antibody forming mechanism can be suppressed so the delayed response can be studied as a separate phenomenon. At least with vaccinia infections of guinea pigs recovery begins at a time when hypersensitivity but not circulating antibody exists. Hopefully this subject will be explored with other viruses in the near future as little information is presently available.

Recovery from disease is only part of the total problem of resistance to virus infection as resistance to reinfection must also be considered. Nonspecific factors such as age, sex, general well being and climate must be expected to play a role in reinfection immunity equal to that in resistance to and recovery from primary infection. Of the mechanisms operative in acquired immunity only circulating antibody would seem definitely established as preventing reinfection. The fact that traces of neutralizing antibody persist in the blood for many years makes it unlikely a virus particle could get safely to a susceptible host cell unless that cell was located in the superficial cell layers. Even such a finite exposure would boost the titer of antibody and make a third exposure more likely to fail. Interferon does not have the longevity of antibody simply because it is produced only by cells in contact with inactive virus and it seems unlikely that sufficient inactive virus remains on the scene to maintain high levels of interferon. Thus its role seems limited to recovery. Delayed hypersensitivity is not a transient response, yet this does not necessarily argue for a major role for hypersensitivity in reinfection immunity; in fact, there has been much opposition to do so for tuberculosis. In all but massive exposures, hypersensitivity might be expected to participate, but to what extent remains unknown, since in the natural host it is always coexistent with circulating antibody.

ANEURYSMS OF THE SPLENIC ARTERY

(Continued from page 34)

condition of the patient as well as to his symptomatology.

SUMMARY

A series of 12 cases of aneurysm of splenic artery has been collected during a six year period. These lesions are usually found in the elderly and are more common in females. Radiographically, the lesion often presents as a characteristic calcific ring like density in the left upper quadrant of the abdomen. Because of the high mortality associated with rupture of these aneurysms surgical excision should be seriously considered when these lesions are discovered.

Medical Center.

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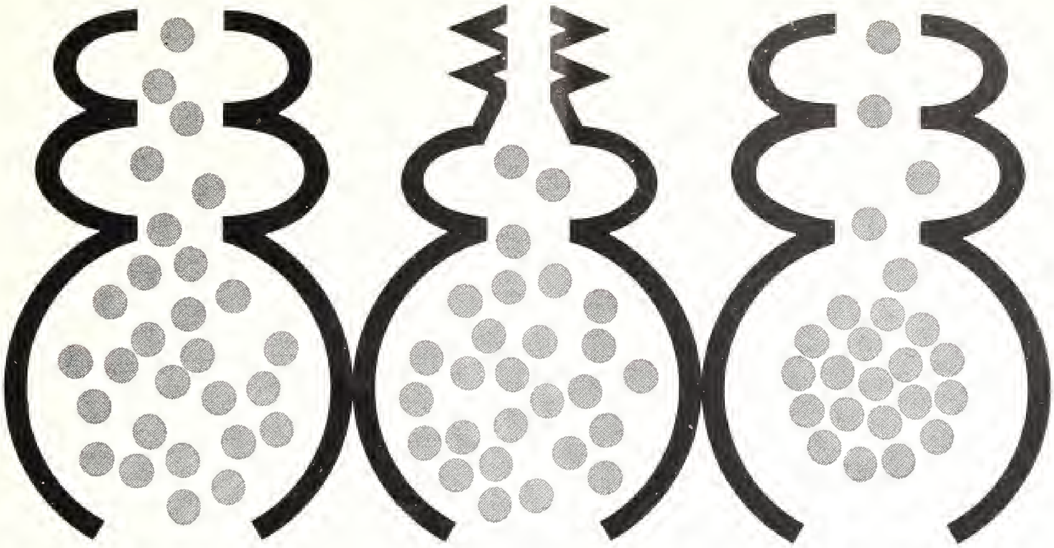

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Psychologic and Social Factors In Family Formation

THE TERM "psychologic unit," in its usual sense, refers to individuals. Many students of personality development would describe it in terms of drives, needs, cognitive and adaptive functions, integrative activities, growth, defenses, conflict-solving and neutralization of energies. These, indeed, are all functions of the psychologic unit known as man. Families can be seen and described in somewhat the same terms as individuals. They are conceived, grow, flourish into some period of high activity, and finally disappear. Families, indeed, can be said to have natural histories. Not only do they have natural histories, but they demonstrate many of the same activities and functions as individuals. Families can be studied in ways in which one can elucidate the needs, integrative activities, defenses, conflict-solving and neutralizing activities of the family. In this sense, the family is a psychologic unit.

The family is also a social unit and, as such, represents a social subsystem within a larger and more complex society. As a social subsystem it falls heir to and exhibits all of the qualities of small group interaction and can be defined in appropriate sociologic, as well as psychologic, terminology. In what is to follow, psychologic and social factors operative in family formation will be discussed.

Why have families? Obviously because they serve important functions. And, while families may have many functions in different situations, there appear to be three functions which are the irreducible minimum, and which are universal. These are: first, reproduction; second, the socialization of the child, and third, the stabilization of the adult personality. These three irreducible functions crystallize important biosocial, evolutionary truths. They acknowledge the need for a stable relationship between adults in which the society and its culture can be transmitted in an enduring way. Further, these universals recognize psychologic, biologic and social qualities of the human condition. They recognize that object relationships—that is, intimate relationships with other human beings—are keystones in the development of the human personality. They recognize that there is a crucial need for close, one-to-one relationships early in the lives of all human beings. They recognize the need of the child to be totally immersed in a small group of people to whom it may relate and from whom it may learn. Finally, they recognize that learning and the transmission of knowledge and values can be accomplished most expediently in small groups.

The family is ubiquitous and occurs in infinite varieties. Every culture studied has been seen to demonstrate family living as an integral and important part of the culture. The infinite varieties that families represent are seen as a reflection of the way in which society molds a family to suit the function which the society designates for the family. How basic psychologic and biologic needs are met, which needs are met, in what manner they are met and how completely they are met is the nexus out of which a culture and a society develops.

Families as systems that operate in psychologic and sociologic terms are discussed.

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There are two groups into which families may be divided. The first is the extended family. This is a grouping of individuals that occurs in many cultures and societies. It is a large aggregate of people which includes at least three generations and sometimes more. Parents, children, grandchildren and cousins are included in such extended family groups. However, even in societies in which this type of family exists, the second type of family may be seen. This second group of families is the nuclear family of procreation, and it includes husband, wife and children. It is this family—the nuclear family—which will be the focus of this paper, since it is the family most characteristic of America in the mid-twentieth century. The nuclear family represents a combination of individuals in two generations —parents and children. It is a social subsystem that not only varies from culture to culture and from society to society, but which also varies markedly during the course of its own natural history. The nuclear family, which begins with just a procreative couple, changes markedly in characteristics and functions as it develops. It takes on different forms and activities as children are born, grow into pubescence, are separated from the family, form families of their own and, as parents, themselves grow into old age. Throughout the course of the natural history of the nuclear family it will have different structures at different times and there will be markedly different stresses operating within and on it. Later in this paper the nature of both the different stresses and the different structures will be discussed in detail.

Before going on to discuss the American nuclear family, there is a need to introduce some additional concepts. The first is role. This is used in a special, sociologic sense, although psychologic implications will be discussed later. A role is a goal-directed pattern, or sequence of acts, tailored by cultural process for transactions a person may carry out in social systems or situations.[1] Every one, within or without his family, must assume many roles. Roles as fathers, mothers, physicians, housewives, voters, aggressors, victims are assumed. Some of the roles played are ascribed, that is, one has no choice over them. Other roles are learned. Age and sex are ascribed roles. Efforts to resist the former of these two are so frequent in our culture as to be descriptive of it. Efforts to resist the latter delineate a major area of psychopathology. Since the roles one learns, or has ascribed to him, come within present social context, all have a relationship to other people who must also play roles. This relationship is best described by the concept of role complementarity. For example, if one is going to successfully play the role of the aggressor, there must be someone willing to recognize this and who will assume the role of the victim. Within the framework of our culture this concept of role complementarity can be seen, for example, in the expectations men and women have of each other. In our culture a woman expects her husband to be independent, aggressive, aspiring, to try to be as successful as possible, to be upwardly mobile, and to make plans for his occupation; but, she also expects him to cooperate with her in raising the children and helping around the house. In return, a man expects his wife to be generally willing to be submissive in her interests to his primary job and life goal interests. Also, he expects her to establish the family role in the community and to be primarily concerned with child-raising. It is to be understood that this concept of role complementarity does not always imply a conscious assuming of roles. In fact, in most cases it is quite the opposite. People learn the roles and play them in unconscious and unthought of ways, and their role partners do the same.

For any given individual, within any given nuclear family, there is during the course of development a process of increasing role differentiation. That is, as individuals grow from infancy into adulthood they learn to assume many more specific and complex roles that relate to an ever-widening circle of people, institutions and activities. This process of increasing role differentiation is, in normal individuals, in the direction of higher levels of interaction and integration. The infant moves from a dyad relationship between mother and self that is highly eroticized and intense, into a situation in which first, usually its father, then its siblings must be integrated into its life. The first role a person plays is an infant, which is rather undifferentiated and unspecific, and which does not give much recognition to sex. The next role the child must learn is that of a child, one in which there is not just a one-to-one relationship with the mother, but a relationship to mother and father. This, of course, requires a shift of interest and investment, and a giving up of some part of a highly eroticized relationship with the mother. Then the child must learn the role of sibling, again a process which requires a redistribution and redefinition. With maturation a further differentiation develops, brother and sister in relation to mother and father and, finally, the multiplicity of relationships and roles that grow outside of the family.

It is important to note that in the development of the infant, the infant moves from a highly eroticized and intense relationship with one person into a series of relationships that must gradually be de-eroticized with an increasingly larger circle of people. The importance of the need to de-eroticize highly charged relationships in early childhood is reflected in the incest taboos that are present in every culture, in one form or another. This successful de-eroticization of relationships within the family then forces the individual to seek erotic relationships outside of the family and, of course, results in the formation of new families. This process takes an extremely important place in the evolutionary development of mankind and societies of men. This system forces formation of new families and the individuals who form them come from two separate and different families. The chances for variation and variability in all healthy cultures tend to be stabilizing and unifying forces. This has the increased effect of keeping a culture cemented together, without allowing it to branch off into highly inbred and divergent groups, as well as spreading changes out gradually and easily over a period of time and within a wider area.

Because there are roles in the family, one can also say there must be boundaries which define these roles. Some boundaries, as indicated earlier, are ascribed as age and sex boundaries. Other boundaries are not so neatly marked. There is, within every nuclear family, a need to keep these boundaries intact in order that the family function in a healthy way. It is usually a sign of dis-equilibrium and dysfunction within a family when these boundaries are violated. The most common violation of boundaries within our culture is the violation of the boundary between generations—one in which the parents try to act as children and the children as parents. Other frequent violations in boundaries have to do with sexual identification. Sometimes sexual roles are not really clearly defined for individuals within a family. The husband may not be secure in his own identification as a man and this will have important consequences on both his wife and his children. In healthy families, however, parents unite to maintain the important boundaries. The erotic and aggressive needs of children place considerable pressure on the unity of the parents. Genital sexuality is one of the important factors which tend to keep the parents united in the face of this pressure. This is the primary ritual of marriage and the parents' love interests in each other tend to keep their own ties strengthened, as well as to reinforce their roles as men and women, and as parents. When the parents can be unified and keep the age boundary, as well as the sex boundary clear within the family, the child is then forced into erotic relationships outside of the family and then into higher levels of interaction. This is one of the important phenomena that occurs in childhood around the time when children are between the ages of 4 and 6, and when they must come to grips with intense feelings about their parents—especially the parent of the opposite sex. Certainly another important factor in the genital sexual tie between the parents is that it offers a sanctioned outlet for the acting out of some infantile impulses that are a part of all human beings. It provides the opportunity for the re-enactment of their own unresolved conflicts.

It is pertinent to consider, more specifically, the American nuclear family. Within the American nuclear family there are reflections of prevailing cultural values. Some of the most important of these, at the present time, are: a high degree of mobility, both geographic and cultural; emphasis on independence; a marked separation between generations, i.e., children leave their parents, do not live with them; and, an allegiance to democratic processes. These cultural values have marked results on the family, to which attention must be given. It results first in a small family that is much thrown in on its own. The family is isolated from grandparents usually, and the home consists of only the parents and children. This causes a marked intensification of all interaction between parents and children. Because of this, the emotional balance of parents is much more critical in the American nuclear family than it might be in some other cultures where the extended family is the rule.

The cultural values usually produce a situation in which the father is isolated from the help of other men and is involved in a highly competitive and difficult job to support the family alone, without help from the extended family when he is either vulnerable, weak or injured. There is pressure to play "Superman" in order to meet the culture's expectation that the husband-father alone provide for his wife and children in all circumstances. At the most primal level this frequently touches off smouldering conflicts around dependency needs and produces two types of unrealistic solutions—the total retreat from responsibility, e.g., the large number of desertions, divorces, husbands who avoid supporting their families via alcohol and gambling, or the opposite extreme of a hypertrophied insistence on self-sufficiency that allows no room for the expression of "weakness." At a social level, of course, these needs must be and are, partially at least, met by various types of political and social institutions.

The configuration of the American nuclear family also results, usually, in an all or none situation for the children in terms of who will be the suppliers of dependency gratification. In more extended families, there are frequently many individuals who could be sources of dependency gratification and support in early infancy and also later provide objects with whom to identify during maturation. In the American nuclear family the child usually has the choice between mother and father only.

This nuclear family has double standards for women and mothers. First, there is great emphasis on the equality of the sexes. Yet, at the same time, there is a great emphasis on the feminine, maternal role. There is also the need for the wife to live vicariously through her husband's successes in his job and generally postpone or give up any successes she might have obtained in adaptive and instrumental roles.

The American nuclear family also presents marked extremes in experiences in dependency and independence. There is a premium placed on dependency in early childhood. Then, abruptly, there is a marked shift to an emphasis on independence as the child matures. This marked polarity frequently makes the issue of dependence and independence a critical one in development of emotional problems for people in our culture.

Although the American version of the nuclear family places marked strains on the individuals who must participate in them, this situation is true in families in all cultures. There are strains within them, although these strains may be greater or lesser, depending on the culture and how realistic the family is in terms of the culture's needs. Families are formed and people who live within them are happy, successful and function in adult and healthy ways, this phenomena being another memorial to the remarkable adaptive powers of the human being. Families can function well in our culture and needs can be met within the family. Problems can be solved in realistic ways. Individuals can grow. There can be a marked interchange of understanding and respect between all parties involved. People can grow into a realization of their individual identities, experience love of others, self-respect and develop the strength to meet new experiences in open, receptive and realistic ways. If one were to use the psychologic analogy for the family, one would say that the family ego can function at a high level of integration—perception, memory, judgement and associations all operating in ways to enhance reality testing. In such a family both the husband and wife would be acting mutually within their identities as men and women, responding to the other appropriately within this framework, as well as responding appropriately to their children as parents and offering the children realistic and loving people with whom to identify and from whom to learn.

However, the very process of human development means that for each person there are infantile conflicts, either poorly or unsuccessfully resolved, which can make their importance felt in the way the adult lives and functions. Neurotic distortion is also a part of the family life, and it seems no family is free of some of it. This means that families bring into play a variety of defenses by which they attempt to deal with the impact of distortions on the family. These distortions, in the areas of sexual identity, problems of low self-esteem, poor self-image, feelings of deprivation, infantile wishes to be cared for, anger and hate growing out of frustrations, are all, in a way, reflected in families. The fact that this is the case, however, does not necessarily mean that the family is bad or incapacitated. Healthy families, like healthy individuals, are built to tolerate certain stresses. In some cases, as a matter of fact, the neurotic interaction between two family members may well serve to cement the family together. The acting out of neurotic conflicts with or through the members of the family is really a jumping off place for consideration of family psychopathology.

Parents can, and do, use children to act out their own poorly resolved, infantile impulses and wishes. Parents attempt to seek infantile neurotic gratification within the family as they reenact their own unsuccessfully resolved family of origin situation. These neurotic interactions within the family group inevitably involve all members of the group, sometimes via the route of another's need to be injured and play the role of the victim; or perhaps, via the route of the displacement away from one member, to whom the neurotic response may be directed, to another member of the family who is perhaps a safer target for such feelings. For example, a child may become a target for marked hostility from one parent because the parent is unable to direct the hostility toward the other marriage partner. As these neurotic conflicts are acted out within the family group, families begin to take on strange configurations. Two more pathologic configurations are the schizmatic family and the skewed family.[2] In the schizmatic family there develops a cleavage, perhaps, between mother and daughter against father and son; or between children against parents; or father and daughter against mother and son. In these families the split in the family is frequently on the surface—especially in the sicker families—and there is much blaming and counter-blaming within the family for the family's difficulties. Even greater difficulties develop with families that attempt to deny that schisms exist. In the skewed family, a marked shift takes place within the family role and role functions. There is, perhaps, an aggressive and domineering mother who will take over many of the adaptive, instrumental roles usually assigned to the father. The father will then assume a minor, inconsequential role within the family constellation. Such shifts of power and function in the family, if they are to be of importance, imply a compliance at some level, either conscious or unconscious, for such a shift to work out. Another form of the skewed family results when one member of the family imposes on the other members, a highly personal, irrational idea or system of thinking, so that in its most extreme form, an entire family may be living and acting out the psychosis of one of its members.

At this point it is necessary to point out that what is functional for a family is sometimes dysfunctional for an individual member of a family and vice versa. The need for a father to choose a daughter as a love object within the family might be necessary to establish a kind of harmony within the family as far as the father's relationship to the mother and other siblings is concerned. However, it might have marked consequences on the daughter who is so chosen, and may result in the development of a constellation of psychiatric and/or somatic symptoms.

To put some of these concepts into a slightly different framework, one can say that dysfunction within the family is frequently due to role failure. Members of families, as stated before, play many roles. Members of a family can be successful in some roles and fail in others. One can be successful in some roles under certain conditions, and fail under other conditions. For example, a man could be a successful businessman, leader in the community, athlete, and still be a failure as a father. Also, a woman might be successful in her role as wife, but not so successful in her role as mother; or, a woman might be successful as a mother under certain circumstances, perhaps when her own mother is near to support her, but be a complete failure when the mother moves away. Role failure, it can be seen, needs ultimately to be described and understood in terms of individual psychodynamics and psychopathology.

In this country people usually embark on marriage in the early 20's. There is an inordinantly long period given over in our culture to the resolution of adolescent conflicts and between physiologic and social maturation (although Americans marry younger than any group in Western European culture). Most young people in our culture come into marriage after some experimenting in sexual behavior, although this varies markedly from sub-group to sub-group within the culture. The individuals going into a marriage do so after spending a relatively long time in peer groups of their own sex, with whom they are highly identified. These peer groups allow them to make the transition from childhood into adulthood, and allow them to find people with whom to identify successfully during this period of transition. It allows them to work out the problems around the firm establishment of adult sexual identities. Many men who come to marriage at this age come at the end of what Erikson called the "psychosexual moratorium." This is the period of time in which the individuals suspend the resolution of important conflicts in order to more firmly establish their identities.

In choosing mates people look for reciprocity, i.e., role reciprocity, as well as shared values, strivings for status, security, presige and stability. These are all important in choice of mate. It is also true that most people marry within their own cultural group. Beneath a hypertrophied romantic idealism that characterizes adolescence there is an underlying realism about the choice of mate. It is this realism that brings people to choose mates with whom there will be reciprocity, understanding and a genuine sharing. What expectations people have about their marriages and the beginning of the family they are going to form are determined along two parameters—the culture's or sub-culture's values and their own life experiences.

There is a psychologic realism, too, about choosing mates that cannot be denied. With mates, as with many other things, people usually get what they deserve, or rather, what they want. Unconscious factors play a large part in the selection of mates. Without realizing it, people search for a mate whose personality will fit into their own personality structure—for example, people with masochistic tendencies will look for someone who will treat them badly. People who are dependent will look for someone who will take over and be domineering and aggressive. People who are afraid of sexuality will find a partner disinterested in sex. It might be hoped that such careful selection would make for stable marriages. Unfortunately, this is not true. The excesses of neurotic gratification of unconscious needs can be so stressful as to break up a marriage. Also, distortion frequently makes it possible to judge inaccurately, even about unconscious needs. Someone who is dependent may marry someone, thinking that person is strong, only to find that the person is almost as much in need and as dependent as they.

Marriage is frequently an attempt to resolve a conflict that grows up in late adolescence, especially around sexual role. Frequently the marriage is entered into as an effort to solve problems around one's feelings about one's parents. This might be to act in revenge against the parent, or an attempt to find a parent substitute, or an attempt to identify with a parent. There is often a search for a mate characterized by an attempt to find someone who will assuage or counteract one's own anxiety about some particular function or role. In this sense, marriage is looked upon as a cure.

One of the important things about marriage is that it requires two people to take on new functions and new roles. People have to learn how to be husbands and wives. Healthy people will learn to account for the distortions they may bring to the marriage about their conception of the marriage role. People with major personality problems will fail.

Childbirth, like marriage, provides both the opportunity for further integration and growth, and also an opportunity for the reactivation of infantile and neurotic conflicts. Childbearing brings entirely new stresses into a family and may be responded to and tolerated in entirely different ways. A family that may be able to function adequately childlessly might well fall apart with children. Or the opposite may be true, in that a family that is shaky without children may be stabilized a good deal by children. Bringing a new life into the world represents one of the genuine functions of the family and can be a time of great fulfillment for both husband and wife. However, the wish to have children may itself represent a neurotic conflict. Both the husband and wife may wish to have children purely to establish their own sexual identities, where they feel inadequate or insecure. The wish to have a child may also be a defense against the feeling of sterility or disinterest in sexuality; or a wish to reenact a highly charged and erotic relationship with a parent that was never resolved satisfactorily. It may be a wish to find an ally against one's mate. It may be a wish to alienate or injure one's mate. Certainly, even in the healthiest of families, the appearance of an infant who is demanding and helpless produces a shift in how dependency gratification within the family will be allocated. The issue frequently becomes that of whom is going to get how much. For both husband and wife, as well as adding something, the birth of a new child will take something away—dependency gratification that the parents themselves may need. The birth of other children requires further rearrangements and realignments within the family and further shaping of the intimate relationships that exist there.

Not to summarize, but only to restate what is obvious: Families are systems that can be seen operating in psychologic and sociologic terms. The family stands between the individual and the culture, and the culture and the individual and, as such, must deal with and resolve pressures from both directions. Individuals bring into families their unique responses to the human condition and the family becomes a potential for the expression of both healthy and realistic solutions, as well as sick and unrealistic ones.

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Thermonuclear Survival

Basic Dietary Supplies and Equipment for Shelters

This continues a series of articles on thermonuclear survival. These include material previously published in the *New York State Journal of Medicine,* and are published with permission of that journal.

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Reprints of individual articles will not be available but reprints of the entire series will be made available if there is sufficient demand.

THE ORIGINAL recommendations for food storage in a shelter were that a 14 day supply be stored. In some areas of the country, this may prove to be adequate. However, in many areas, this amount may prove totally inadequate. In the event that a mass area attack takes place, almost all unprotected food stocks above ground either will be destroyed, or will be badly contaminated, so that they cannot be eaten for some time. Transportation systems will be completely broken down, with railroads non-functional and most truck routes destroyed or blocked. Farm animals will almost all be killed by radiation. The fields will be badly contaminated so that few farmers will risk death to plant a new crop for several months. This country has several billion bushels of surplus grain. That amount is more than enough to keep the population alive and in good health for a period of a year or more. The administration has, with considerable wisdom and forethought, proposed to move much of this stored grain to accessible areas outside of target cities. However, it must be realized that at this time such movement of the grain surplus has not taken place and, indeed, Congress has not yet even authorized the appropriation for such a wise move. Therefore, prudence and wisdom dictate that a considerably greater supply of stored food be kept in or near the family shelter.

Even if the government does move its surplus grain stores to more accessible areas, there will be many problems involved in distributing this food to the population. It may, and it probably will, prove necessary for some member of each family to walk, or bicycle to a food depot, 10 or 20 miles from home every week to get the food ration for his family. Much of this can be avoided if reasonably adequate food stores are kept in the family shelter. I recommend a six months supply.

In recommending that a six months supply of food be stored in a shelter, it is not suggested that it will be necessary to stay in that shelter for that period. Indeed, in more than 90 per cent of cases, it will be safe to leave the shelter within one or two weeks after the attack. However, the food in the shelter becomes a form of cheap life insurance.

There appear to be some misconceptions about food and food storage which it would be well to clear up. When Secretary Freeman announced the prudent and sensible plan for storing surplus grains near target areas, some criticism was voiced on the basis that it would be too difficult to process that grain into an edible material, presumably such as bread. The suggestion was made that processed food be stored instead. There are two points to consider here: edibility and cost. Most Americans are not accustomed to eating ordinary unprocessed grain. However, it is nutritious, digestible, wholesome and fully adequate for the important considerations of health and vigor. Wheat can be chewed and eaten raw, it can be roasted, it can be boiled, it can be mixed with other foods. It has a relatively

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In the article "Fire, Firestorms, Burns and Blindness," (page 976) the statement appeared "There are approximately seven and one half liters per cubic foot." This should have read "There are approximately seven and one half gallons or 28 liters per cubic foot. Therefore the oxygen requirement per person would be 28 liters per hour, and for a family of six, a total of 168 liters of oxygen per hour are needed. A steady oxygen flow rate of one half liter per minute per person would be adequate."

bland taste, which may not be particularly appealing to one who has a choice of all the varied foods to which Americans are accustomed. However, in a survival situation, when nothing else is available, wheat or corn will become desirable food. In areas in which starvation has occurred, people have eaten insects, earth and ordinary garbage, in an attempt to stay alive. By comparison with these, wheat and corn are attractive. Furthermore, the cost of a government program for the storage of surplus wheat and corn for the entire country for a six month to one year period, is within reason, inasmuch as these grains, purchased in bulk, cost the government between 1½ and 3 cents per thousand calories. By contrast, the processed foods which can be stored for long periods of time, range about 10 times that cost. (This, of course, is some indication of how small is the farmers' share of the food dollar.)

WATER

Water is less of a problem than food because well water, filtered through many feet of sand, will have little contamination. Furthermore, even contaminated water can be purified by distillation or filtration.

A Well Within the Shelter.—In many cases, it is practical to supply a well within the shelter itself. A 1½ inch diameter well point is driven into the ground and to the water level, and an old-fashioned hand pump is attached. Thus, a constant supply of relatively pure water is assured, subject to monitoring for unexpected radiation. The cost of such a well seldom exceeds $35. It is not always feasible, however. The soil must be sandy and the water level within 20 feet of the floor of the shelter. The well should be driven before the shelter is covered with earth. Even with a well, some pure water must be stored in case the well bcomes contaminated.

Water in a shelter should usually be used for drinking only and should be rationed. No harm will come to healthy persons on reasonably restricted water rations, even if they feel thirsty. A suggested amount is two quarts of water per day per person over five years of age. The shelter itself should contain at least a 35 day supply. This comes to 60 quarts, or two cubic feet per person.

Storage.—Storage must be in large containers. If quart bottles are used, three to four cubic feet of valuable space will be wasted. It is best to use containers holding at least five gallons (20 quarts) each. Government surplus tanks of five, 10 or 20 gallon capacity are excellent and quite cheap. Be sure they are not cadmium plated, since cadmium is a deadly poison. Additional water for another three months may be stored outside the shelter, with strong plastic garden hose bringing it to the shelter. One or more large tanks of the type used for hot water heaters is obtained, and all openings but two are securely capped. These two openings, one on the top and one on the bottom, are connected to lengths of good quality plastic garden hose by adapters obtained from any plumbing supply company. Both hose ends should be within the shelter, connected to a nozzle. The empty tank is buried near the shelter and covered with earth. The tank is then filled by means of the hose and the nozzle is closed. The second hose length is needed to allow air to replace the water withdrawn.

The water does not require the same degree of protection as human beings. Water is not made unfit by any known amount of radiation reaching it from outside. Only if the radioactive contaminants get into the water itself is the water dangerous. Thus, a steel tank with no leaks gives complete protection to water. The suggestion that the water tanks be buried is made to minimize the danger of flying missiles breaking the tank.

It is usually possible to pick up old hot water tanks of 20 to 50 gallon capacity at junkyards and wreckers. They make excellent storage tanks. When more than one tank is used, each one should have separate hoses running into the shelter.

Water stored in a shelter should be kept in a dark place, and in addition, should be inspected at intervals of approximately a month. In the event that any growth of algae takes place in the stored water, as shown by cloudiness or scum on the top, it should be poured out and replaced with fresh water. It would be helpful to have available some sort of material which would prevent algae growth, but still not interfere with the potability of the water, but to my knowledge, such a material is not at this time commercially available.

Water usually can be purified for drinking purposes by filtration in clean sand or, in emergencies, through ordinary earth which has not been contaminated. This is not ordinarily a practical or safe procedure to attempt while inside a shelter. It is, however, a useful procedure to follow in the event that there is a shortage of pure water after one has come out from the shelter. It may prove worthwhile to store in the shelter,

TABLE 1
SELECTED FOODS OF HIGH NUTRIENT VALUE AND LONG STORAGE LIFE

Kind	*Water (Per Cent)*	*Protein (Per Cent)*	*Important Vitamins and Minerals*	*Calories as Purchased (Per Cubic Foot)*	*Average Retail Price Per 1,000 Calories (Dollars)*	*Approximate Storage Life**
Sugars						
Granulated	0	0	0	90,000	$0.07	1 year
Cubes or tablets	0	0	0	99,000	0.10	1 year
Honey (round 2½ pound can)	20	1	0	73,000	0.24	1 to 5 years
Oils & Fats						
Soy or cottonseed (round bottle)	0	0	0	132,000	0.09	1 to 5 years
Soy or cottonseed (rectangular gallon can)	0	0	0	196,000	0.08	1 to 5 years
Grains						
Wheat (whole)	12	10	Niacin Thiamin Riboflavin	50,000	0.03	2 to 5 years
Corn (whole kernel, dried)	12	9	Niacin	48,000	0.02	2 to 5 years
Wheat flour (unbaked)	12	11	Niacin Thiamin Riboflavin	54,000	0.06	6 months
Rice (precooked)	7	9	Niacin Thiamin	38,000	0.28	6 months
Corn meal (cylindrical container)	12	9	Niacin	46,000	0.07	6 months
Corn meal (rectangular container)	12	9	Niacin	58,000	0.07	6 months
Baked Goods						
New England brown bread (canned)	44	5	—	26,000	0.25	1 to 5 years
Cracker meal (rectangular container)	5	9	—	60,000	0.19	6 months to 1 year
Royal Lunch milk crackers (1 lb. box)	5	7	—	27,000	0.20	6 months
Fig Newtons	13	3	—	41,000	0.30	6 months
Lorna Doone shortbread	3	7	—	42,000	0.33	6 months
Milk						
Evaporated (can)	74	7	Calcium	28,000	0.23	1 to 5 years
Sweetened condensed (can)	27	8	Calcium	86,000	0.18	1 to 5 years
Nonfat dry milk (not instant)	3	36	Calcium	41,000	0.19	6 months to 1 year
Dried Fruits						
Prunes, wax wrapped	24	2	—	44,000	0.29	1 year
Raisins	24	2	—	58,000	0.22	1 year
Dates, pitted	20	2	—	45,000	0.30	1 year
Figs	24	4	—	75,000	0.50	1 year
Meats (canned)						
Corned beef	59	25	—	51,000	0.55	1 to 5 years
Roast beef	59	25	—	51,000	0.57	1 to 5 years
Ham (small can)	50	22	—	56,000	0.88	1 to 5 years
Corned beef hash (Armour)	65	9	—	40,000	0.41	1 to 5 years
Potted meat food product (Armour)	65	12	—	37,000	0.56	1 to 5 years
Beans						
Baked beans (can)	76	6	—	22,000	0.22	1 to 5 years
Pork and beans	70	6	—	25,000	0.22	1 to 5 years
Fish						
Sardines in oil	47	21	Niacin	58,000	0.38	1 to 5 years
Tuna in oil	52	24	Niacin	61,000	0.49	1 to 5 years
Salmon	65	20	Niacin	26,000	1.32	1 to 5 years
Spreads						
Peanut butter	2	26	Niacin	83,000	0.18	1 to 5 years
Jams, marmalades	28	0	0	68,000	0.31	1 to 5 years
Other						
Peanut brittle (in compact bars)	2	8	Niacin	60,000	0.33	1 year

* Storage life based on careful packing in plastic to protect from moisture.

TABLE 2
SUGGESTED SIX-MONTH FOOD SUPPLY FOR ONE PERSON IN SHELTER

Food	*Net Weight (Pounds)*	*Cubic Feet (Approximate)*	*Calories*	*Estimated Retail Cost (Dollars)*
Sugar	20	0.34	35,000	$ 2.45
Oil	15 (2 gallons)	0.30	59,000	4.72
Flour	40	1.00	66,000	3.96
Corn meal	20	0.50	33,000	2.31
Cracker meal	10	0.32	19,000	3.61
Cookies (see table 1)	20	0.50	19,000	4.92
Sweetened condensed milk	20	0.34	29,000	5.22
Dried fruits (see table 1)	10	0.20	11,000	3.63
Meats (see table 1)	20	0.41	18,000	12.00
Beans	50	1.27	28,000	6.16
Sardines and tuna fish	10	0.22	13,000	5.87
Peanut butter	8	0.25	21,000	3.74
Jams and marmalade	8	0.14	10,000	2.98
Peanut brittle	5	0.16	10,000	3.30
Canned vegetables, assorted	15	0.61	2,000	3.00
Canned citrus fruit juice	20	0.81	4,000	5.10
TOTALS	291	7.37	377,000	$72.97

several sacks—perhaps 100 to 150 pounds—of clean sand, as well as several lengths of four inch diameter galvanized steel pipe-thin wall. If the water available is badly contaminated with radioactive particles after leaving the shelter, the steel pipe can be filled, or almost filled, with clean sand, and the contaminated water allowed to filter through it. Filtration through a total of 10 feet of clean sand will probably purify most water in terms of removal of radioactive particles. However, if there is a danger of bacterial contamination, these makeshift filters will probably be inadequate and the water might have to be boiled or purified by chlorine or iodine also.

Food

Problems in Choosing Food for Storage.—The storage of food presents a more complex problem. It will seldom be possible to store in a shelter sufficient supplies of the varied foods to which Americans are accustomed. One usually thinks of food in terms of dollars or calories per pound. However, in a shelter the major limiting factor is space, or cubage. Thus, one must think of food in terms of calories per cubic foot. In table 1 are listed the calories per cubic foot of some representative foods. Fortunately, there are many foods which are concentrated enough to provide the fats, carbohydrates and proteins needed for life without taking up excess space. Pure fat contains up to 232,000 calories per cubic foot if suitably packaged. Pure granulated sugar contains about 99,000 calories per cubic foot.

In a shelter in which relatively little activity will be performed, a reasonable allowance for an adult is 2,000 calories per day. Thus, a cubic foot of fat provides enough calories for 116 man days, while a cubic foot of sugar provides for about 50 man days. In considering the space taken by foods, certain points must be kept in mind. The foods which are poor choices for storage in a shelter are those which spoil easily or take up lots of space because they contain large quantities of indigestible roughage or air. Most green vegetables have excessive amounts of indigestible cellulose. Bread of the usual type is so fluffed with air that it has only about 12,600 calories per cubic foot, while flour has about 78,000 calories per cubic foot. Many crackers also contain large amounts of air, and so their caloric value is only about 24,000 calories per cubic foot. An exception to these principles may be made for canned fruit juices. Although they have a low caloric value per cubic foot, they are made bulky with water, not air. Since water must be stored anyway, it is a good idea to have relatively large amounts of canned fruit juices which are calculated as part of the water, rather than the food allowance. Similar principles apply to all canned foods which are liquid in consistency, including soups, condensed milk and syrups. However, if these other liquids are stored, the plain water stored should not be reduced by more than one half. In calculating the space taken by canned foods it must be realized that space is

TABLE 3

UNPROCESSED OR PARTIALLY PROCESSED FOODS AND SUPPLEMENTS AVAILABLE IN RURAL FEED STORES

Type	*Usual Unit Sold*	*Cost Per Unit*	*Cost Per Pound in Cents*	*Protein Per Cent*	*Comments*
Wheat, hard	bushel = 60 lb.	$2.90	5	10	
Corn, dried	bushel = 56 lb.	1.28	2.3	9	
Rolled oats, steamed	50 lb.	2.55	5.1	16	
Soybean, whole	50 lb.	2.00	4	38	
Calcium Carbonate	50 lb.	.75	1.5	0	May be used to prevent Strontium 90 deposition in bones
Vitamin C, Crude preparation	1 lb.	.90	90.	0	Contains 30 grams or 30,000 mgm. per pound. One pound contains an adequate ration for 1 person for a whole year

TABLE 4

FOOD AND WATER STORAGE AND PROCESSING

Item	*Source of Supply*	*Cost*	*Other*
Hand-grinder for grains	Perma-Pak Company 3106 South Main Salt Lake City 15, Utah	$12.50	
	Straub Company 2622 West Hagert St. Philadelphia 32, Pa. (F4 Mill)	$11.00 east of Mississippi $12.00 west of Mississippi	
	Montgomery Ward (87 FB 4701 MB)	$13.95 F.O.B.	
	Sears Roebuck (32 FA 3305 K)	$13.95 F.O.B.	
Containers for Food and Water	Scholle Container Co. 200 West North Avenue Northlake, Illinois	5 gal. capacity with 1½ in. opening—47c each in lots of 250. 6 gal. with 1½ in. opening—49c each in lots of 250.	May be possible to obtain these in smaller lots than 250 from local dairy firms.

wasted because cans are round, rather than rectangular in shape. Thus, the figures for calories per cubic foot in table 1 have already been corrected for this difference and express the values as calories per cubic foot of shelter space used, rather than as calories per cubic foot of enclosed can.

With the exception of the liquid foods mentioned, it is best to store foods which contain at least 40,000 calories per cubic foot, equal to 20 man days per cubic foot. Since proteins are also needed, protein content is given for the foods in the table.

Cooking.—Cooking will not be practical for some time. Although many foods usually are not eaten uncooked, in emergencies they can be, and are nutritious. Wheat flour, for example when mixed with water or other fluids such as the juices and oils remaining in cans, is digested and utilized at 70 per cent efficiency. Thus, while baked flour contains up to 78,000 calories per cubic foot, raw flour provides only 54,000 calories per cubic foot. This is, nevertheless, substantially more than 40,000 calories per cubic foot, so flour is a good item for storage.

One of the best materials for stockpiles of food for a family are whole grain wheat and whole grain corn, the same types that are currently being stockpiled by the government. Most people will find it difficult to purchase this material unless they go to some sort of farm supply store. However, there is a likelihood that before long this material will be available in an appropriately packaged form. It should be noted that the recommendation that this material be stored when it becomes available is in addition to the government storage of large supplies. After an attack, the distributional system in the nation may take a long time to recover, and it may be an exceedingly difficult thing for the head of the family to journey a relatively long distance to a distribution point in order to get his family's weekly supply of grain. The low price and long storage life of these grains make them particularly suitable for this purpose. Again, it must be emphasized that they can be eaten and are highly nutritious in the uncooked, unprocessed form if well chewed. They can, of course, be ground by hand or cooked or handled in other ways. Stored grain can be purchased at the present time from some of the farm supply houses at a price of between four and six cents per pound. It comes in relatively large, unwieldy containers, which may not be fully practical for the average person. In order to make the farm abundance of the nation available to save lives in the event of a thermonuclear war, the Missouri Farmers Association is currently working on a method of packaging washed, stored grain in a fashion to make it completely suitable for storage either in a shelter or in a closet. It is anticipated that when this appropriately packaged grain is available, it will cost approximately $1.50 for 25 pounds of wheat, and $1.10 for 25 pounds of corn. A reasonable estimate is that a pound of either grain would be an adequate ration for one person for one day. In other words, it will be practical to store food for long periods at a cost of five to six cents per person per day. At this rate, it would appear prudent for the head of each family to store a six month supply of such grains to be used during the recovery phase of a thermonuclear attack. For a family of five, this would come to approximately $45, total, for a period of six months.

Objections may be raised that stored grains do not constitute a balanced diet, and these objections have some validity. However, they are adequate to maintain life and reasonably good health for long periods without any additional food. The only important nutrients which are not found in these stored grains would be certain vitamins, and they will be considered.

The problem of processing stored grains can readily be solved by the purchase of a small, hand-operated grinder. With an instrument of this sort one can, in 20 minutes, grind enough wheat or corn into flour to provide a day's ration for an entire family. Sources of supply are listed in table 4. It is cheaper and more practical to store whole grains plus a hand-grinder than to store flour. Whole grains cost less than half as much as flour, and they have a storage life of many years, perhaps as much as 20.

A new development in packing may prove to be the solution the problem of storing grains, and water in home and community shelters. This development, originated by the Missouri Farmers Association, is now commercially available. It consists of a double layer polyethylene sack inside of an extra strong cardboard carton. The polyethylene sack is sterile and is closed with a strong water-tight polyethylene screw cap, approximately one and one-half inches in diameter. The reinforced spout and screw cap protrude slightly from an opening in the cardboard carton. The cardboard is much heavier and stronger than that used in ordinary cartons (fig. 1). As a result, several cartons can be stacked in a series without crushing. Because of the rectangular shape, there is no wastage of storage space. A container with six gallon capacity measures approximately 9 by 10½ by 17 inches. These containers are not ordinarily sold in retail outlets. They are available in lots of 250 or more, at a cost of about 50 cents each (table 4). Thus six

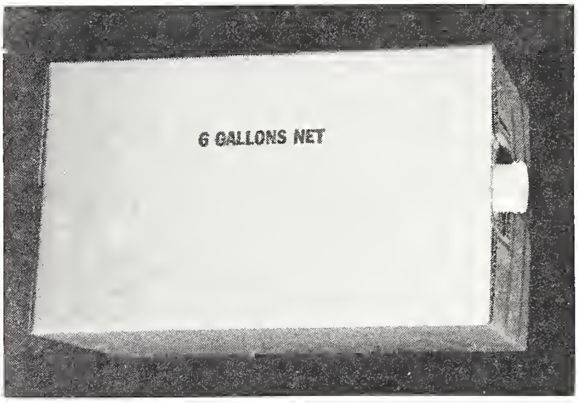

Fig. 1

gallons of water could be stored at a container cost of less than 9 cents a gallon. This is many times less than the cost of other types of containers. The same device may in the future, prove to be excellent for the storage of whole grains, in family shelters and community shelters. It may even make mines, warehouses and caves suitable storage depots for grain since the water and air-tight polyethylene screw cap would keep moisture from the grain and this also would prevent spoilage.

Storage of grain in these containers at this time involves a calculated risk. There is a possibility that insects and molds will grow on the grain and make it inedible. However, chemicals are being developed which can prevent any such growth and will be nontoxic to humans. When available in a suitable form, these chemicals may make it possible to store whole grains in these small containers for periods of five to 10 years or even more. There may be a way to obtain these containers in small quantities. Many of the large dairy companies in the main population centers use these containers for the bulk shipment of ice cream. (Similar containers with smaller openings are used for bulk shipment of milk.) It is suggested that anyone wishing to purchase small numbers of these containers telephone the offices of the local dairy company which delivers the morning milk. The dairy can be asked to sell some of these containers, at about cost price, as a special service to its customers, and as a patriotic contribution to the nation.

At this time, the containers should be used only for water storage. Until a reliable method is developed for preventing the growth of algae in stored water, it will be advisable to empty, rinse and refill these containers every three months.

Spoilage.—It is important also to restrict food storage to those foodstuffs which do not spoil easily. Canned goods, of course, keep well. Sugar, flour and similar items will keep well if polyethylene is wrapped around the original package to keep out excessive moisture. In table 1 only items which keep well in storage are listed. In table 2 are listed the food supplies per person for shelter storage, to be modified according to individual tastes and needs. If the family includes infants, special foods should be stored also. The retail costs of the foods listed in table 1 are presented simply as a guide to buying. They represent an average of current prices in large chain grocery stores. By purchasing directly from a wholesale grocer in carton lots, it should be possible to save a substantial portion of these costs. Since the food will be available whether an attack comes or not, it should not be considered merely as an expenditure for shelter, but also as an advance purchase.

If it appears that foodstuffs have spoiled they should not necessarily be discarded. Exceptions for this rule may be made for canned foods. In the event that cans swell so as to suggest a contamination within, they should be discarded without opening. This, however, is highly unlikely in any commercially canned foods.

In the event of insect contamination of such stored food as flour, whole grain, etc., the material should not be discarded. Most of the insects which contaminate these materials are not harmful to humans, and there is a strong possibility that the material can be salvaged and eaten. Indeed, there are some cultures in which the insects themselves are eaten.

Although a number of so-called "survival foods" are now available on the market, they do not appear to have any particular advantage for civil defense purposes. It is quite true that these foods are nutritious and that they have a long storage life. Unfortunately, however, their costs appear to be quite high in relation to the nutrient value. For a lesser amount of money, one can purchase other foods as listed in table 1 with equivalent storage life. Accordingly there does not seem to be any reason for anyone to buy and stock the so-called special foods. A similar consideration applies to canned water. A trip to the grocery store will indicate that canned fruit juices cost considerably less in some cases than canned water.

In many cases, it will be worth while to store the food in the shelter for a relatively limited time only, before an attack. For example, if a particular food has a shelf life of about 12 months, the date of purchase is written on the carton and after six months a new carton is bought and put in the shelter, and the old carton is brought into the house and used up for current needs.

Vitamins and Other Dietary Supplements.—Since vitamins will not be present in sufficient quantities in the stored food, supplements will be required. It is best to store two types of vitamin tablets—vitamin C and multiple vitamin tablets.

Vitamin C.—Vitamin C is especially important in a postbombing situation, and should be availbia arranged under the auspices of the University per day. High quality products will not lose any appreciable potency for several years. This probably applies to the vitamin C made by a number of manufacturers. However, I have not been able to find any government standards or reports indicating which products are the most stable in storage. The only vitamin C preparation concerning which I have any specifie factual information is that made by Lilly, which has been tested and which apparently retains virtually full potency for several years. The stored vitamin C should be enough for two years (about 700 tablets per person). Not only will this vitamin be needed while in the shelter, but also it will be needed probably for more than a year thereafter. It is presumed that most survivors will have to live on stored food found in warehouses and on surplus government grain. These foods have practically no vitamin C.

Multiple Vitamins.—Since there will also be deficiencies of the other vitamins, multiple vitamin capsules containing the recommended amounts of vitamins A, B and D should also be stored in the shelter. A year's supply for each person is a reasonable amount. In purchasing these vitamins, it is best to buy the high quality products made by the pharmaceutical firms which specialize in medications sold on prescription. It is best to avoid the cheaper quality vitamin pills which are advertised extensively on television or in newspapers. Although multiple vitamins also contain vitamin C, there is no harm in having a small surplus of this important vitamin.

Calcium.—Another dietary supplement which should be stored in the shelter is calcium. It can be stored in bulk, in the form of one of its soluble salts, rather than in pills or capsules. The calcium salts should not be taken while in the shelter, or while eating stored, uncontaminated food. Under these circumstances calcium is useless and perhaps harmful. Instead, it should be saved for the time when all the stored food is consumed. At that time, the only food available outside may still be contaminated with radioactive strontium which would probably be quite dangerous. However, if a little calcium salt is mixed with the strontium-containing food, the body retains some calcium and eliminates more strontium. The exact amount of calcium salt needed per person per day will depend on several factors. Probably it will be possible to get expert opinion on this matter after emerging from the shelter. However, the above ground supplies of calcium might be destroyed or contaminated by that time, and so health and perhaps survival may depend on stored calcium. In the absence of expert opinion, each adult should take 1 gm. of calcium salt three times a day, with each meal of food which may be contaminated with radioactive strontium. Children should receive proportionally larger amounts.

About five pounds of purified calcium salts obtained from a pharmacy can be stored, and also 50 to 100 pounds of the impure calcium chloride used in special cement mixes or on tennis courts. Calcium supplements used for livestock are excellent. This material is inexpensive—about 4 cents a pound. It may be life insurance for years to come. It will take up water from the air, so the unopened sack should be sealed in a large polyethylene bag and kept in a dry place.

As an aid to city people in their planning for food storage, table 3 presents some current prices of grains and food supplements which are available at rural feed suppliers. Some local and seasonal variation can be expected. These items are ordinarily fed to livestock, and are not washed. In emergency situations, they may be used for human nutrition. Many are quite suitable for storage in home or community shelters.

WASTE DISPOSAL

Since the shelter may be the only home available for weeks, it must be furnished with some provisions for waste disposal. These provisions need not be elaborate, but they should reduce as much as possible the chance for contamination by human excreta.

A urinal may be made by sinking a four inch diameter vent pipe at least six feet below the floor of the shelter at a slant. The pipe is filled with gravel.

A satisfactory chemical toilet can be obtained for about $16.* It should be installed with a three inch vent pipe extending to the outside of the shelter. A simple filter, such as fiberglass should be installed near the top of the vent pipe to prevent backeddies of air from bringing radioactive contamination into the shelter.

Another type of toilet is made of aluminum and uses disposable plastic bags.† It is relatively inexpensive, about $9.50, and since it folds up, may prove to be useful where space is limited. If one is purchased, extra disposable bags should also be bought.

In the event that a toilet is not included in the shelter, cruder means of waste disposal will be

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* Model 42GT6505K sold by Sears, Roebuck and Company, Philadelphia, Pa.

† Sold by Goldbergs, 202-04 Market Street, Philadelphia 6, Pennsylvania.

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o lobar pneumonia in Missouri

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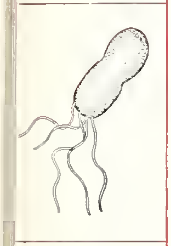
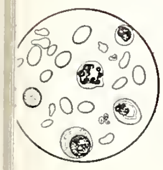


Oroya fever (Carrión's disease), prevalent only in certain valleys of the Andes, is characterized by a rapidly evolving, febrile pernicious anemia. The infecting organism is *Bartonella bacilliformis,* a gram-negative, flagellated organism, transmitted by night bites of the phlebotomus, or sand fly. The organism is unmistakably identifiable in blood films—no other human pathogen even slightly resembles it. The mortality rate of untreated Oroya fever can be as high as 40 per cent (in all probability, this was the disease which decimated Pizarro's army in the 16th century). Treatment with Terramycin produces dramatic reduction of fever and a stabilized blood count in 48 hours or less.



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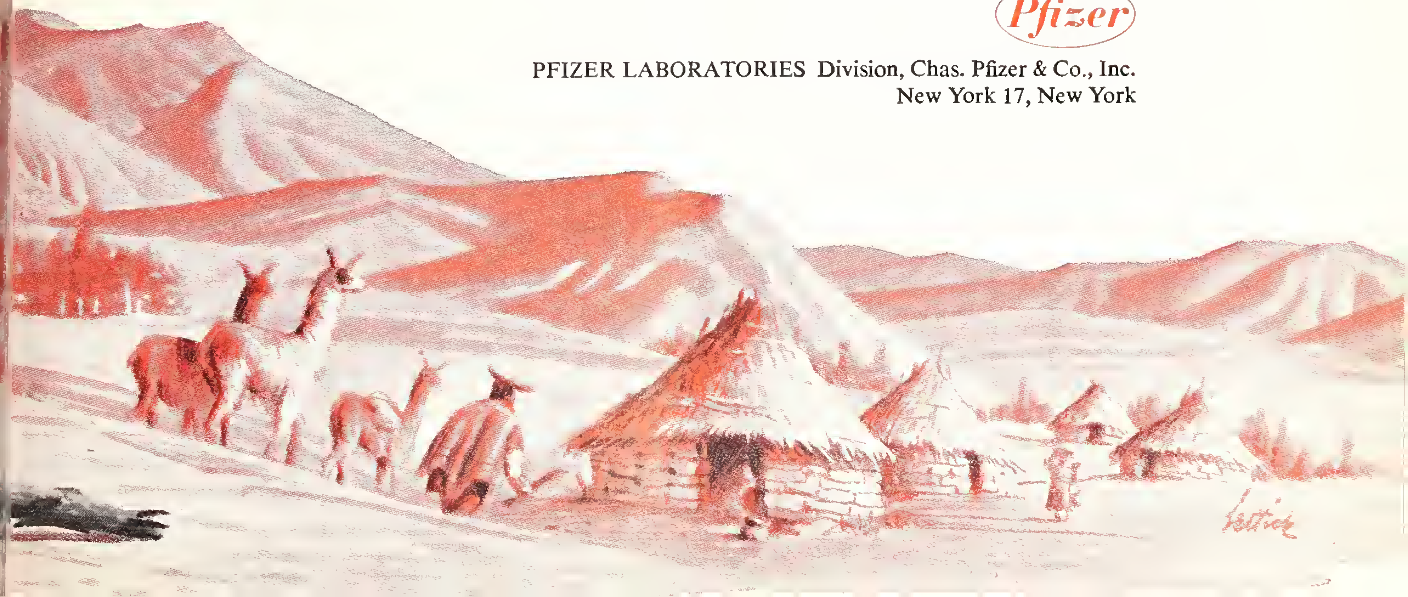

TABLE 5

RADIATION DETECTION METERS

Manufacturer	*Model No.*	*Type of Reading*	*Range*	*Cost (approx.)*	*Other*
Gelman Instrument Co. Chelsea, Michigan	28,500	Direct dial	1 to 100 r per hour	$49.00 P.P.	
Victoreen Instrument Co. 5806 Hough Avenue Cleveland 3, Ohio	61720	Direct dial	0 to 500 r per hour	$50.00 F.O.B.	Gamma ray sensitivity only. However, this is adequate for family and neighborhood use. Substantial quantity discounts.
	V-720	Direct dial	0 to 500 r per hour	$90.00 F.O.B.	Gamma and beta ray sensitivity.
Landsverk Electrometer Co. 641 Sonora Avenue Glendale 1, California	CDV-730	Dosimeter to be read at timed intervals	0 to 200 r per hour	$35.00 F.O.B.	
Bendix Aviation Corp. 3130 Wasson Road Cincinnati 8, Ohio	Shelter Kit	Dosimeter to be read at timed intervals	0 to 120 r per hour	$25.00 F.O.B.	
Lionel Electronic Labs. Inc. 1226 Flushing Ave. Brooklyn 37, N. Y.	CDV-715	Direct dial	0 to 500 r per hour	$99.50 F.O.B.	
	LEL-777A	Direct dial	0 to 100 r per hour	$99.50 F.O.B.	Detector cable and remote detector available to fit—25 to 1000 ft. long—cost from $35 to $132.50.
Nuclear Corp. of America 2 Richwood Place Denville, N. J.	RM-100	Direct dial	0 to 1000 mr per hour and 0 to 100 r per hour	$43.00 F.O.B.	

needed. The excreta should be placed in small polyethylene bags which are then sealed. These bags may be kept in the shelter until it is safe to take them out for burial. If a bucket is used as a toilet, it must have a tight fitting lid and a disinfectant must be used.

Radiation Meter

A good radiation measuring instrument is essential in a post-attack situation. A few such instruments are available throughout the state, but not nearly enough. It would be advisable for professional personnel such as physicians to have them, but there is no provision for their supply by government agencies, except to high schools. Accordingly, it seems advisable to consider the personal purchase of such an instrument.

Selection of such an instrument should be made with caution. The geiger counters offered for sale by mail order houses and recommended for prospectors will have little value for civil defense. If they have beta windows (for measuring beta rays), they may be useful for detecting contamination of food and water. However, they are far too sensitive to gamma rays to be useful in the presence of radioactive fallout. Most of them have a maximum reading of from three to 50 milliroentgens. However, after an attack the important ranges are five to 50, or five to 500 roentgens, over a thousand times as much. An attempt to use these geiger counters to measure fallout radiation is the equivalent of trying to weigh a truck with a postage scale. There are some instruments which will measure radiation in the roentgen range. Unfortunately, there may be a long waiting period now before orders for these radiation detection meters can be filled (table 5).

Other Items

In addition, it is advisable to store other items in shelters. Included should be extra clothing and shoes, blankets, sewing kits, safety matches, flashlights and batteries, books and parlor games, a transistor radio with extra batteries, tools, cooking utensils (basic minimum); to be used after leaving shelter, soap, detergent capable of removing radioactive contamination, can openers, polyethylene sheet 4-mil thick, about 300 square feet, basic medications and first aid supplies.

Departure From Shelter

A major problem will be the decision as to when to leave the shelter. The answer depends on the extent of the initial radioactivity. In almost all cases it will be safe to leave the shelter in two weeks. If the initial radiation is relatively low, a one week stay in the shelter will be sufficient. It is best to avoid exposure as much as possible. Except in the most acute emergency, no one should leave a shelter when the outside radioactivity is greater than 10 roentgens per hour. Children should be kept inside the shelter until the outside radioactivity is very low.

In the event that the bomb burst has been close by and the contamination is extremely heavy, the outside radiation may be several roentgens per hour even after months have passed and the food supply is practically exhausted. Under such circumstances, the wisest course will be to leave the shelter at dawn, carrying a three or four day ration of food and water, and to try to get as far away from the bomb crater as possible.

After leaving the shelter, it may be found that all food and water show some contaminiation. Canned food is safe if the can is washed off thoroughly. Water is safe if distilled. If undistilled water must be used, it can be considered reasonably safe if its radioactivity has been checked by competent civil defense teams with adequate instruments, which can measure beta radiation (table 6).

TABLE 6

PERMISSIBLE LEVELS OF WATER CONTAMINATION

Probable Number of Days Contaminated Water Must Be Used	*Maximum Beta and Gamma Activity* (Disintegrations Per Second)* (Per Cubic Centimeter)	(Per Teaspoonful)
10	3,000	12,000
20	1,500	6,000
30	1,000	4,000
40	800	3,200

* Measurements are to be made with an instrument capable of detecting beta rays. The measurements must be taken in an area in which the background radiation is less than 50 counts per minute. Usually this can be done by taking a small sample of water into the shelter and performing the measurement there.

Donald M. Dowell, M.D.

President's Message

Happy New Year!

But enjoy it quickly—for there is work to be done early in the year. The Missouri Assembly convenes on January 2 and probably among the first bills to be introduced will be one to implement further the Kerr-Mills act. Without doubt there will be opposition and work will be needed to help promote this act of legislation.

On January 9, the Congress of the United States convenes and there can be little doubt but that similar legislation to the King-Anderson bill will have early introduction.

At the interim session of the American Medical Association, the keynote speech of the Association's president, Dr. George M. Fister, stressed the attitude of the AMA toward Social Security health care for the aged. He warned about compromise and said that the entire medical profession should understand the basic issues and recognize the difference between compromise and surrender. He said "The people will respond to the truth and it is imperative that we as individuals and as an organization see that they get the truth."

Let's follow this advice in Missouri.

D. M. Dowell, M.D.

EDITORIAL

APPROVED MEDICAL SCHOOLS NUMBER 87

Two medical schools were added to the list of accredited institutions during the last year, bringing the total to 87, the annual report on medical education of the American Medical Association showed.

The new additions are the University of Kentucky College of Medicine, Lexington, and the California College of Medicine, Los Angeles, formerly the College of Osteopathic Physicians and Surgeons.

Approval is granted by the AMA and the Association of American Medical Colleges. There are now no unapproved medical schools in the nation.

The 1961-1962 report, prepared by the AMA Council on Medical Education and Hospitals, said 10 or 12 new medical schools are currently being planned. Five universities—Brown, Rutgers, Connecticut, New Mexico and Texas—are proceeding with plans announced last year to establish two or four year medical schools, the report said, adding:

"In almost every state there is some consideration for the possibility of developing new schools within the next decade. Of the many states that have initiated formal or informal considerations of the feasibility of establishing a new school, Arizona, California, Maryland, Massachusetts, Michigan, New York and Ohio seem most likely to be the sites of new schools in the foreseeable future."

Sixty-seven medical schools completed or began construction of additional facilities in the 1961-1962 school year, the council reported. As in the previous year, about three times as much money was allocated for the completion of research facilities as for teaching, "emphasizing again the difference in availability of funds for support of these inter-dependent but sometimes competing functions," it said.

However, almost twice as many dollars were spent to complete medical service facilities in 1961-1962 as in the previous year, and the council said it is "apparent that medical schools are giving increasing attention to constructing and modernizing their hospital and clinical facilities."

Reporting on the number of applicants to medical schools, the council said a decline was recorded for the fifth straight year.

"The decrease amounted, however, to only 16 students, hardly a significant number, and it now seems probable that the formerly progessive decline has been checked," it said. "Based upon estimates of applications for the 1962-1963 class and increased enrollments in undergraduate colleges, the expectation is that the number of applicants will be shown to have increased for 1962-1963 and will continue to increase for several years."

Although various explanations have been offered for the decline in medical school applicants, the council said "the problem seems to be largely the fact that many new and important careers have opened up for the college graduate, during a period of years in which a relatively small group of men and women reached college age. In retrospect it would appear that this heavy competition for the depression crop of babies should have been anticipated by the profession. . . . In spite of the many cries of alarm, there is little evidence that the profession has suffered any real harm through lack of applicants to date."

The total number of students enrolled in medical schools for 1961-1962 was 31,078, which represents an increase of 790 students over the previous year, largest increase for any one year since 1951, the report showed. Approval of the California College of Medicine accounted for 355 of the 790 additional students.

A group of students deserving further study, the council said, are those transferring from foreign medical schools with advanced standing, many of whom are American citizens.

"While most medical schools still do not consider such applicants, a few schools have admitted selected students on an experimental basis, apparently with generally successful results," it said. "It would seem reasonable to expect more American schools at least to consider such applicants in future years." Twenty-two such students were admitted to medical schools in this country in the 1961-1962 school year.

The report included information on students in graduate training in the medical sciences in an effort to estimate the supply of future teachers for new and expanded medical schools. Future clinical faculty members are more likely to be found in residency and clinical fellowship programs, the council said, and a survey showed that all but four of the medical schools reported students in some phase of graduate training in the basic medical sciences.

Ramblings of the Field Secretary

M.D. Day

Three members of the faculty of the University of Colorado School of Medicine joined with faculty members of the University of Missouri School of Medicine in presenting the third annual M.D. Day program at the University of Missouri Medical School November 9 and 10.

The scientific part of this two day program included the presentation of a number of medical papers and two panel discussions. The panel discussions were on "Treatment of Respiratory Tract Infections" and "Management of the Hyperthyroid Patient."

On Friday evening, November 9, a social hour and dinner was held at the Tiger Hotel in Columbia arranged under the auspices of the University Medical Alumni Association. At noon on Saturday, November 10, a buffet luncheon for guest physicians and their families was held in the medical center student lounge. The program was terminated in time for all to attend the Missouri-Colorado football game in Memorial Stadium on Saturday, November 10. More than 150 physicians from all parts of the state registered at this M.D. Day session. The program was sponsored by the school of medicine and the Extension Division of the University in cooperation with the MAGP and is acceptable for 6½ hours of Category I Postgraduate Credit by the AAGP.

A.M.A. Clinical Session

The 16th Clinical Session of the A.M.A. was held in Los Angeles, California, November 25 to 28. The scientific program, held at the Shrine Exhibition Hall, began on Sunday afternoon, November 25, and continued through Wednesday, November 28. The 126 scientific and 150 industrial exhibitors set a record for the clinical meetings to date. Reports are of excellent attendance and a high level of interest at these exhibit displays.

An outstanding feature of the first day of the clinical session was the 4th National Conference on medical aspects of sports aimed at improving the care and treatment of athletes. This conference was sponsored by the A.M.A. Committee on Medical Aspects of sports and ran throughout the day and evening and was unusually well attended.

Another feature on Sunday, November 25, was the Fifth Annual Medical Services Conference sponsored by the Council on Medical Service of the A.M.A. The conference program was centered on the subject, "Kerr-Mills in Action—1962."

The House of Delegates of the A.M.A. opened its session at 10:00 a.m. Monday morning, November 26, in the Biltmore Bowl of the Biltmore Hotel, ran through the rest of the day on Monday, held reference committee meetings on Tuesday and completed its business with another all day session on Wednesday, November 28. We are informed that Los Angeles has a population of 2,479,015 nice people, the last time any of them stood still long enough to be counted, which represents the nation's third largest city. There are a good number of miles between St. Louis, Mo., and this sprawling city of L. A., yet timewise on the "jet airways" it amounts to three hours or slightly over depending on air currents.

ACROSS MISSOURI

(Continued from page 8)

finance a program of hospital and nursing services for aged recipients of social security.

"The history of the social security program is one of constant liberalizations and ever increasing taxes. The table shows what has happened to this program since it started and what is presently scheduled to take place through 1968.

"Even without an additional increase to finance a medical care program, the social security tax is becoming an increasingly burdensome tax for a growing number of persons. With the increase in rates on January 1, the maximum amount paid by social security taxpayers was $84 in 1956, and will have increased to $174 in 1963, with employers paying an equal amount. The maximum tax paid by the self-employed will have increased from $126 in 1956 to $259 in 1963.

"Now is an appropriate time to bring to the attention of associates, friends and employees the scheduled increase in social security taxes that lie ahead, and that other increases can be expected if the social security system is expanded to provide medical benefits."

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News—Personal and Professional

Among speakers at the executive board meeting of the Woman's Auxiliary held in Hannibal in October were **Donald M. Dowell**, M.D., Chillicothe, and **George A. Ulett**, M.D., Jefferson City.

The Southern Psychiatric Association at a recent meeting in Galveston, Texas, elected **G. Wilse Robinson Jr.**, M.D., Kansas City, as president-elect. Dr. Robinson spoke at the meeting on "Action Programs for Research and Therapy."

"Cancer of the Colon" will be the title of the presentation at the January 9 meeting of the Buchanan County Medical Society at Hotel Robidoux, St. Joseph. I. S. Ravdin, M.D., surgeon-in-chief of the Hospital of the University of Pennsylvania, will deliver the address following a dinner at 6:30 p.m.

"The Facts of Life for Pre-Schoolers" was the subject presented by **Roy A. Walther**, M.D., St. Louis, at an October meeting of the Kratz Pre-School PTA, St. Louis.

The Francis Amory Prize was presented to **Justin J. Cordonnier**, M.D., and **Eugene M. Bricker**, M.D., St. Louis, at a ceremony held in Boston on November 15. The prize is given by the American Academy of Arts and Sciences and was presented for the physicians' accomplishment in the treatment of diseases of the genito-urinary system.

"The Diabetic in Industry" was discussed by **Don A. Black**, M.D., Kansas City, at a meeting of Kansas City members of the Associated Industries of Missouri.

Among speakers at a recent meeting of the American College of Surgeons in Atlantic City was **Garrett Pipkin**, M.D., Kansas City. His subject was "Surgical Treatment of Fractures of the Tibia."

The annual Beaumont Pilgrimage of the St. Louis Medical Society to the grave of Dr. William Beaumont in Bellefontaine Cemetery, St. Louis, was made on November 21. The address was delivered by Brig. Gen. **O. P. Hampton Jr.**, M.C., St. Louis.

"Accelerated Auriculoventricular Conduction in Psychiatric Patients" was the subject of a presentation given by **Michael Bernreiter**, M.D., Kansas City, before the American College of Chest Physicians meeting in Miami on November 11.

Speaking before the Kansas City Heart Association in early November, **C. Rollins Hanlon**, M.D., St. Louis, discussed "Practical Information Obtained in Heart Transplantation Studies."

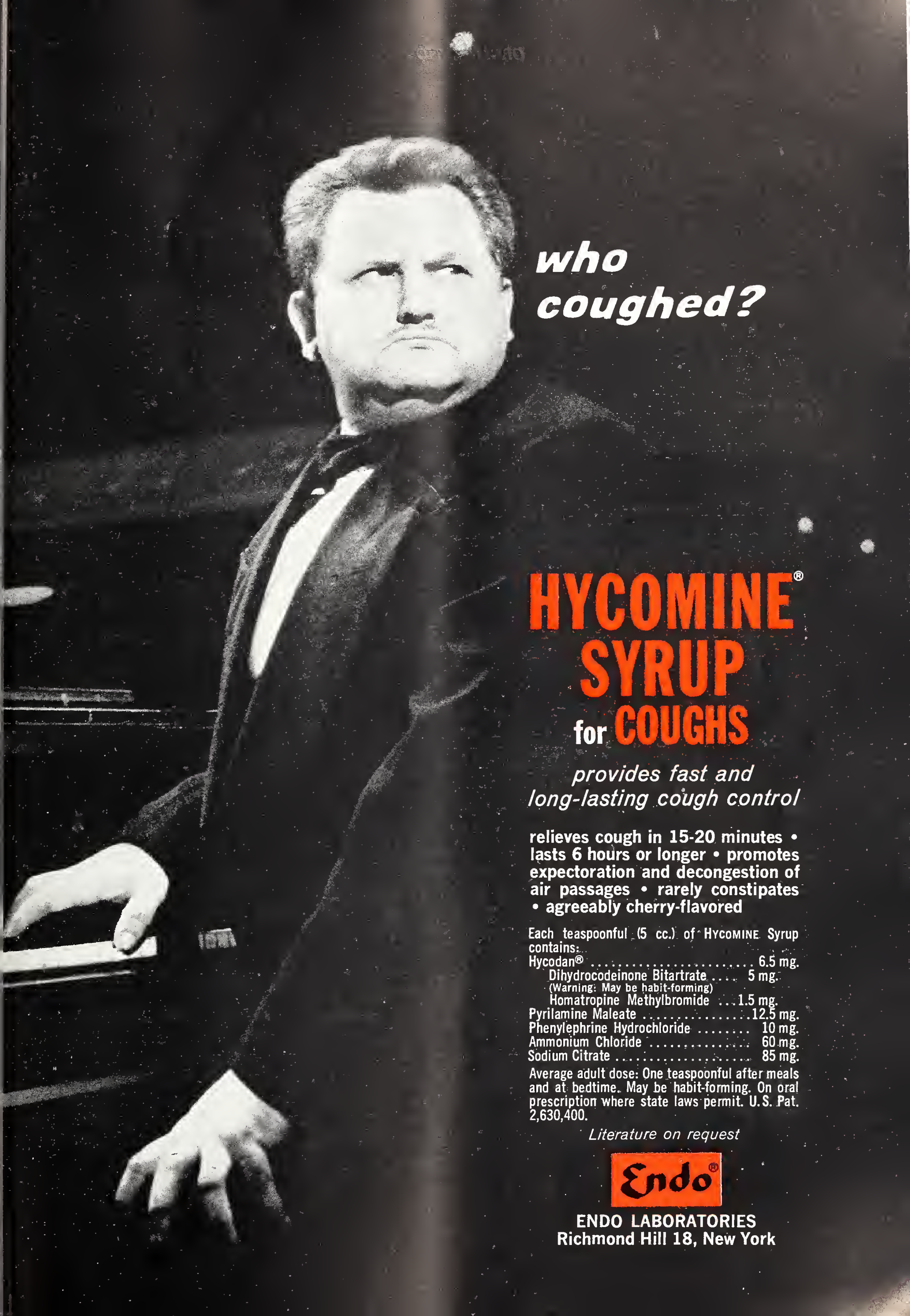
At a meeting of the American Cytologist Society held in St. Louis in November **T. J. Tucker**, M.D., St. Louis, spoke on "Cytology in Private Practice Compared with Previously Reported Studies in Clinic Patients."

The American Cancer Society, at a meeting in New York in October, named **Wendell G. Scott**, M.D., St. Louis, as president-elect.

The Missouri Academy of General Practice, at its scientific assembly in St. Louis in early November, elected **Edson C. Carrier**, M.D., Kansas City, as president-elect. **Walter T. Gunn**, M.D., St. Louis, was installed as president.

Installed as president of the St. Louis Academy of General Practice on December 1 was **Louis C. Wyatt**, M.D., Kirkwood.

"Homicide and Suicide, and the Medico-Legal Aspects of Psychiatry" will be the subject of the ninth quarterly postgraduate seminar on psychiatric problems to be held January 27 at 2:00 p.m. at the Neurological Hospital, Kansas City. Guest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discussant will be Hamilton Ford, M.D., of the Titus Harris Clinic, Galveston, Texas.

The American Medical Association Medicolegal Symposium will be held at the American Hotel in Miami Beach, Fla., March 8 and 9. Formerly three symposiums were held in different sections of the country but the one combined meeting will be held this year.

At a November meeting, the medical staff of Memorial Hospital, Jefferson City, elected **Marshall W. Kelly**, M.D., president; **J. S. Sanders**, M.D., secretary; **Fred O. Tietjen**, M.D., vice president; **Edwin E. Bowe**, M.D., and **Kendall A. Clark**, M.D., members of the executive committee. All are from Jefferson City.

The Flat River Central School PTA had as speaker at a meeting on November 15 **Emmett F. Hoctor**, M.D., Farmington, who spoke on "Spotlighting the Mental Health of Our Children."

At the 56th annual meeting of the Southern Medical Association held in Miami in November, **Daniel L. Sexton**, M.D., St. Louis, was installed as president.

At a meeting in October the St. Louis Pediatric Society elected **Robert L. Korn**, M.D., president; **James K. Turner**, M.D., vice president, and **Francis X. Lieb**, M.D., secretary-treasurer.

DEATHS

Maples, Floyd H., M.D., Springfield, a graduate of National University of Arts & Science, 1916; member of Ozarks County Medical Society; aged 70; died September 13, 1962.

Smith, Ulysses S., M.D., Hannibal, a graduate of Washington University, 1898; member of Marion-Shelby-Ralls County Medical Society; aged 89; died October 14, 1962.

McPherson, Owen P., M.D., Grandview, a graduate of Dearborn Medical College, 1908; member of Jackson County Medical Society; aged 86; died October 14, 1962.

Wall, Arthur H., M.D., Sierra Madre, California, a graduate of Kansas City Medical College, 1895; member of Jackson County Medical Society; aged 91; died October 15, 1962.

Belsey, Wallace A., M.D., Campbell, a graduate of St. Louis University, 1916; member of Dunklin County Medical Society; aged 72; died October 21, 1962.

Ellery, William L., M.D., LaGrange, a graduate of Washington University, 1906; member of Lewis-Clark-Scotland County Medical Society; aged 79; died October 23, 1962.

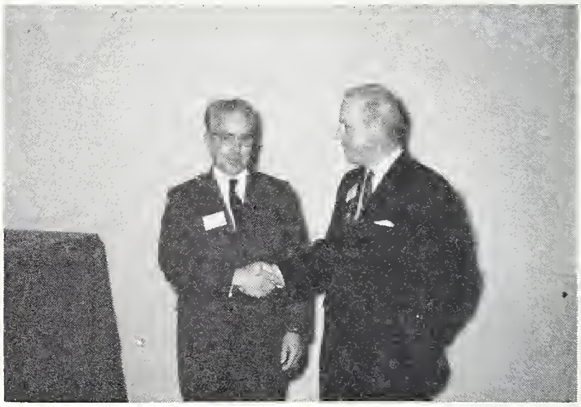
King, Samuel J., M.D., St. Louis, a graduate of the University of Baltimore, 1903; member of St. Louis Medical Society; aged 82; died October 28, 1962.

Hanford, Wesley W., M.D., St. Louis, a graduate of St. Louis University, 1913; member of St. Louis Medical Society; aged 72; died October 29, 1962.

MISSOURI ACADEMY

(Continued from page 12)

The Academy's Annual Award for outstanding leadership in improving health care in Missouri was presented to Mr. Hamilton Thornton, Editor of the Editorial page of the *St. Louis Globe-Democrat*, at the banquet by President Roy W. Pearse.



President-elect Carrier was congratulated by President Gunn.

Speaker at the well attended President's Installation Banquet was Mr. James W. Foristel, Legislative Representative, American Medical Association, Washington, D. C.

The presentations at the four scientific sessions were practical and informative and were well attended. There were forty-eight technical exhibits.

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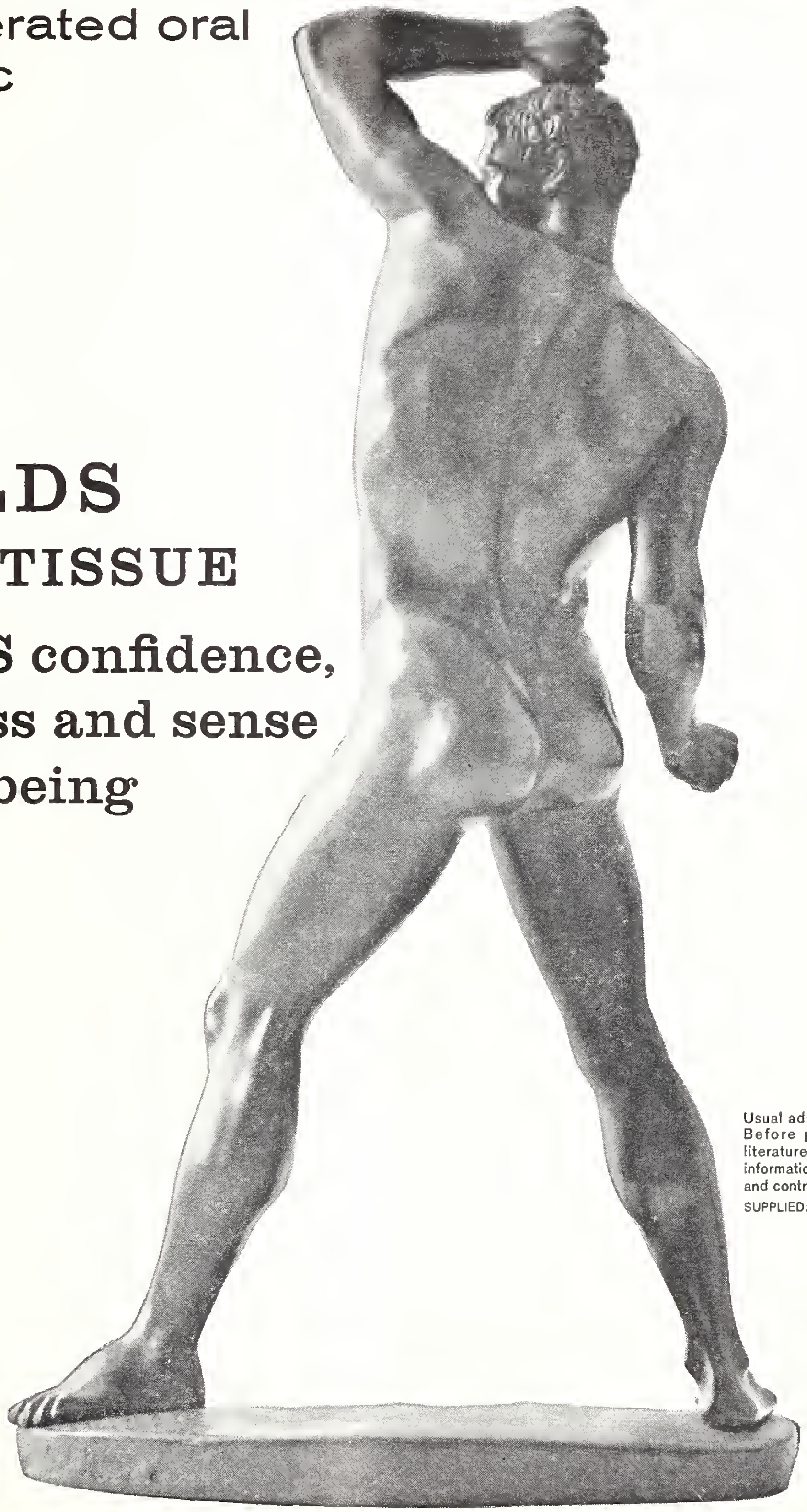

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New Members

George N. Austin, M.D., 807 Stadium Rd., Columbia, has become a member of Boone County Medical Society. Dr. Austin is a native of Oklahoma, received his preliminary education at the University of Oklahoma, and his M.D. degree at the University of Oklahoma in 1950.

William T. Bowles, M.D., 7608 Maryland Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Bowles is a native of California, received his preliminary education at Stanford University, and his M.D. degree at Stanford University in 1955.

Omar B. Dickerson, M.D., 5535 Delmar Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Dickerson is a native of Missouri, received his preliminary education at Missouri University, and his M.D. degree at Missouri University in 1962.

Robert M. Donati, M.D., 5335 Botanical St., St. Louis, has become a member of St. Louis Medical Society. Dr. Donati is a native of Missouri, received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1959.

Francis G. Duffy, M.D., 7615 Carondelet Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Duffy is a native of Ireland, received his preliminary education at St. Vincents College Castleknock, Dublin, Ireland, and his M.D. degree at National University of Ireland in 1952.

Felix G. Freund, M.D., 1114 Elm Dr., St. Louis, has become a member of St. Louis Medical Society. Dr. Freund is a native of Argentina, received his preliminary education at Colegio Nacional de San Isidro College, and his M.D., degree at Universidad Nacional de Buenos Aires, Argentina in 1948.

John F. Greaney, M.D., 3654 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Greaney is a native of Massachusetts, received his preliminary education at Rensselaer University, and his M.D. degree at Albany Medical College in 1960.

William K. Hall, M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Hall is a native of Missouri, received his preliminary education at Yale University, and his M.D. degree at Harvard University in 1942.

Raymond W. Hellweg, M.D., Northland Medical Bldg., St. Louis, has become a member of St. Louis Medical Society. Dr. Hellweg is a native of Missouri, received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1957.

Nayda Konikov, M.D., 524 Midvale Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Konikov is a native of Massachusetts, received his preliminary education at Boston University, and his M.D. degree at Boston University in 1950.

William H. McAlister, M.D., 4417 Forest Park Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. McAlister is a native of Michigan, received his preliminary education at Wayne State University, and his M.D. degree at Wayne State University in 1954.

David H. McKinna, M.D., 3429 Sublette Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. McKinna is a native of Minnesota, received his preliminary education at the College of St. Thomas, and his M.D. degree at St. Louis University in 1959.

Malcolm L. Peterson, M.D., 54 Middlesex Dr., St. Louis, has become a member of St. Louis Medical Society. Dr. Peterson is a native of Washington, received his preliminary education at Stanford University, and his M.D. degree at the University of Washington in 1954.

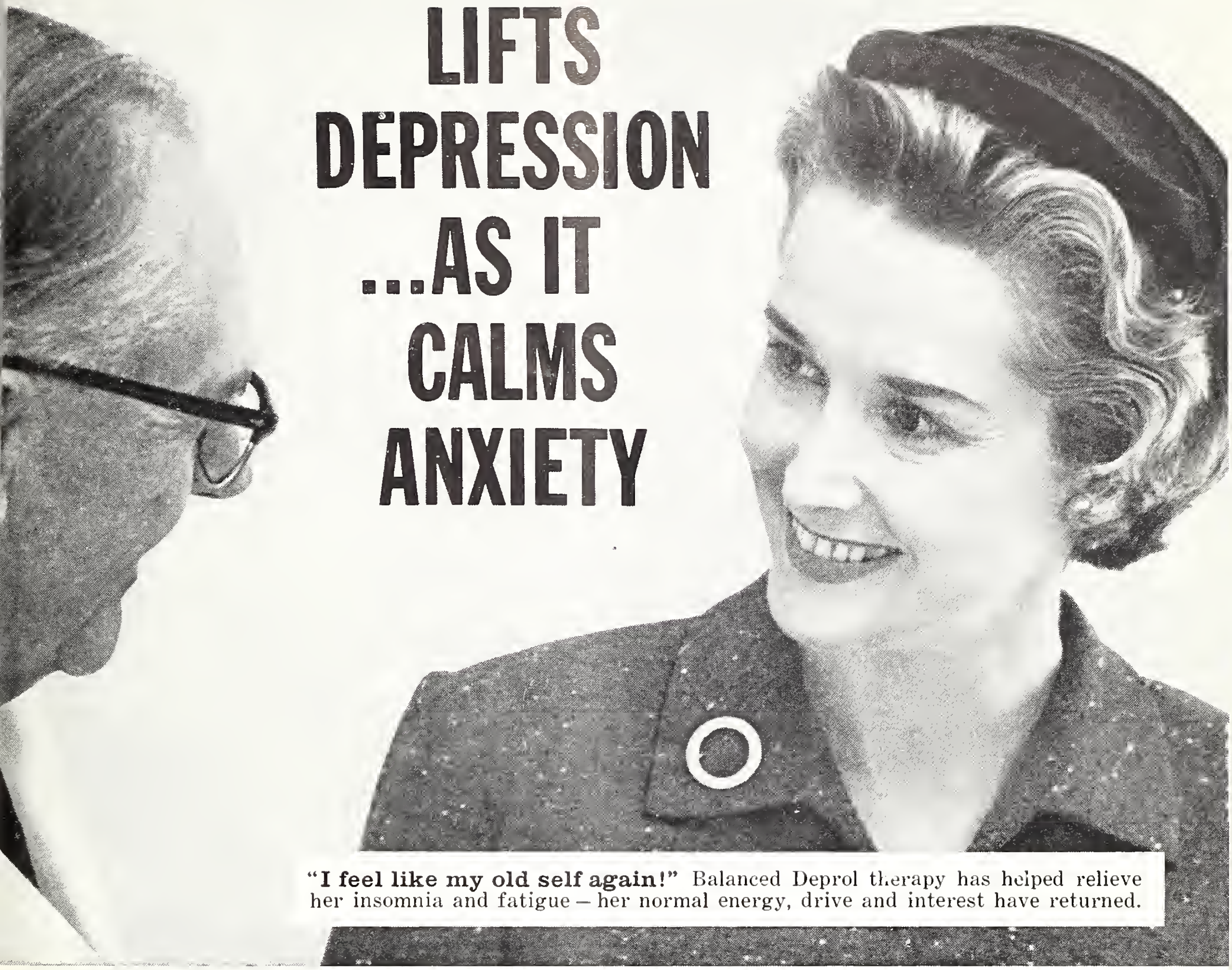
Lawrence T. Post Jr., M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Post is a native of Missouri, received his preliminary education at Yale University, and his M.D. degree at Washington University in 1948.

Herman E. Russell, M.D., 5475 Cabonne Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Russell is a native of New York, received his preliminary education at New York University, and his M.D. degree at the University of Geneva in 1956.

William M. Santanello, M.D., 2425 N. Broadway, St. Louis, has become a member of St. Louis Medical Society. Dr. Santanello is a native of New York, received his preliminary education at Villanova University, and his M.D. degree at St. Louis University in 1938.

William A. Sims Jr., M.D., 1121 Timberlane Dr., St. Louis, has become a member of St. Louis Medical Society. Dr. Sims is a native of Missouri, received his preliminary education at Missouri University, and his M.D. degree at Washington University in 1957.

Robert A. Smith, M.D., 24th & Cherry Sts., Kansas City, has become a member of Jackson County Medical Society. Dr. Smith is a native of Ohio, received his preliminary education at the University of Michigan, and his M.D. degree at the University of Buffalo in 1955.



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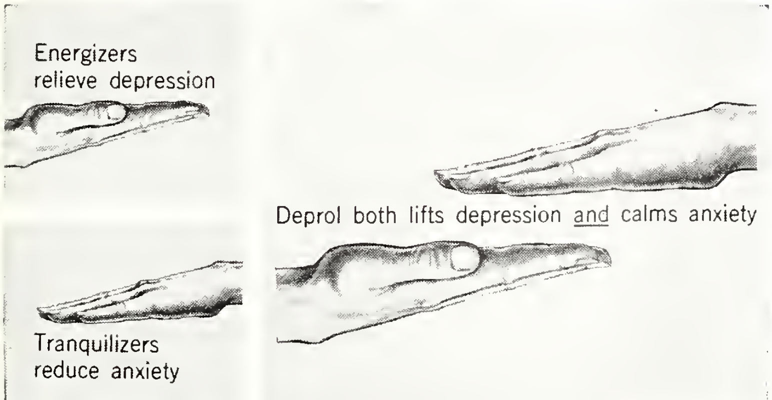
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MISSOURI STATE MEDICAL ASSOCIATION

105th Annual Session

Hotel Muehlebach, Kansas City

March 24, 25, 26, 27, 1963

Sunday, March 24, 1963

1:30 p.m. House of Delegates.

3:30 p.m. Reference Committee meetings.

7:00 p.m. Dinner, Sponsored by Woman's Auxiliary. Colonial Room.

AMPAC and the Need for State PACS, Don E. Wood, M.D., Indianapolis, Ind.

Entertainment.

Monday, March 25, 1963

8:00 a.m. Registration. Grand Ball Room.

9:00 a.m. Panel: What's New. Colonial Room.
Moderator: Maxwell G. Berry, M.D., Kansas City.
Anesthesia: C. R. Stephen, M.D., Durham, N. C.
Medicine: Leon O. Jacobson, M.D., Chicago.
X-Ray: Armand E. Brodeur, M.D., St. Louis.
Traumatic Surgery: Richard M. Kilfoyle, M.D., South Weymouth, Mass.

10:30 a.m. Intermission to View Exhibits.

11:00 a.m. Hypothermia, C. R. Stephen, M.D., Durham, N. C.

11:30 a.m. To be announced.

12:00 noon. 50 Year Club Luncheon.

12:00 noon. Committee on Maternal Welfare Luncheon. Trianon Room.
Case Reports: Septic Shock.
Discussion: Duncan E. Reid, M.D., Boston.
Sponsored by the Committee on Maternal Welfare and the Kansas City Gynecology Society.

Medical Session.

2:00 p.m. The Kidney in Erythropoiesis, Leon O. Jacobson, M.D., Chicago.
Sponsored by the Missouri Society of Internal Medicine.

2:30 p.m. To be announced.

3:00 p.m. The Kidney in Diabetes, Victor E. Pollak, M.D., Chicago.
Sponsored by the Missouri Diabetes Association.

Surgical Session.

2:00 p.m. Surgical Treatment of Mitral Stenosis, Frank Glenn, M.D., New York.
Sponsored by the Missouri State Surgical Society.

2:30 p.m. Subcutaneous Prostheses, J. Barrett Brown, M.D., St. Louis.

3:00 p.m. The Care of Cervical Spine Fractures, Richard M. Kilfoyle, M.D., South Weymouth, Mass.

3:30 p.m. Intermission to Visit Exhibits.

4:00 p.m. House of Delegates. Colonial Room.

4:45 p.m. Reference Committee meetings.

Tuesday, March 26, 1963

8:00 a.m. Registration. Grand Ball Room.

9:00 a.m. Panel: Newer Laboratory Tests.
Moderator: Eugene F. Tucker, M.D., St. Louis.
Thyroid Function Tests, William H. Beierwaltes, M.D., Ann Arbor, Mich.
Clinical Laboratory Interpretations of Electophoresis, Paul E. Hermans, M.D., Rochester, Minn.
Clinical Value of Newer Enzyme Tests, Felix Wroblewski, M.D., New York.

9:00 a.m. Panel: Cystic Fibrosis.
Moderator: Peter G. Danis, M.D., St. Louis.
Prevention and Treatment of Nutritional Deficiency and Infections: Antibiotics and Digestive Enzymes, Gunyon M. Harrison, M.D., Houston, Texas.
Anatomic Pathology, Drummond Bowden, M.D., St. Louis.
Pulmonary Physiology: Discussion of Mucolytic Agents, Herman W. Reas, M.D., St. Louis.
Frequency of Occurrence of the Disease and Diagnosis with Emphasis on Pilocarpine Iontophoresis for Sweat Collection, Charles C. Lobeck, M.D., Madison, Wis.

10:30 a.m. Intermission to View Exhibits.

11:00 a.m. New Virology, Frederick C. Robbins, M.D., Cleveland.

12:00 noon. University of Missouri Medical Alumni Association Luncheon. Trianon Room.

2:00 p.m. Autoimmune Disease, William H. Beierwaltes, M.D., Ann Arbor, Mich.

2:30 p.m. To be announced.

3:00 p.m. Intermission to View Exhibits.

3:30 p.m. Panel: Cancer of the Breast.
Moderator: John J. Modlin, M.D., Columbia.
Panelists:
John W. Pickren, M.D., Buffalo, N. Y.
William T. Moss, M.D., Chicago.
Charles Eckert, M.D., Albany, N. Y.
Sponsored by the Committee on Cancer.

3:30 p.m. Panel: Heart Disease.
Moderator: James G. Janney, M.D., St. Louis.
The Present Status of External Cardiac Massage, James R. Jude, M.D., Baltimore.
Direct Current Defibrillation, Paul M. Zoll, M.D., Boston, Mass.
Sponsored by the Missouri Heart Association.

Wednesday, March 27, 1963

7:30 a.m. House of Delegates Breakfast Meeting.

9:30 a.m. Intermission to View Exhibits.

10:00 a.m. Medico-Legal Session.

County Society News

FIRST DISTRICT

JOSEPH L. FISHER, ST. JOSEPH, COUNCILOR

Buchanan County Medical Society

The annual joint meeting of the Buchanan County Medical Society and the St. Joseph Bar Association was held the evening of Tuesday, October 30, in the Empire Room of Hotel Robidoux. Two hundred and fifty physicians, lawyers, their wives and guests attended the dinner and program. Presiding jointly at the event were Dr. John R. Forgrave and Mr. Floyd M. Sprague, presidents of their respective societies.

Dr. Charles R. Willman, program chairman of the medical society, presented the speaker, Kenneth McFarland, Ph.D., Topeka, Kansas, who gave a dynamic presentation on the subject, "Let's Sell Success." The Crystal Room of the Robidoux was opened to the public and more than 500 persons filled the room to hear Dr. McFarland's talk.

Dr. McFarland has been adjudged the outstanding public speaker in the United States, according to a United States Chamber of Commerce survey. In 1957 he was selected as America's Top Salesman by the International Association of Sales Executives. He has a plaque attesting that he is the nation's number one air traveler awarded to him by the air lines of this country.

Herbert C. Senne, M.D., *Secretary*

Grand River Medical Society

Members and Auxiliary of the Grand River Medical Society met at the Strand Hotel in Chillicothe, Thursday, November 8. The social hour beginning at 6:30 p.m. was followed by dinner.

Dr. George Gary presided in the absence of President Bohnsack. Dr. Gary also presented the clinical portion of the program which was a film on "Enovid" followed by a discussion period.

There was no business meeting.

The Auxiliary was honored to have as guest speakers Mrs. Martyn Schattyn, President of the State Auxiliary, and Mrs. John W. Deyton in charge of the *Quarterly Bulletin*.

The meeting was adjourned early.

Frank R. Daley, M.D., *Secretary*

SECOND DISTRICT

A. P. ROWLETTE, MOBERLY, COUNCILOR

Chariton-Macon-Monroe-Randolph County Medical Society

John Spratt, M.D., Chief Resident Surgeon, Ellis Fischel State Cancer Hospital, Columbia, presented the scientific program at the dinner meeting of the Chariton-Macon-Monroe-Randolph County Medical Society, Thursday night, November 8, at the Woodland Hospital in Moberly. Dr. Spratt discussed "The Changing Concepts of Cancer." He also gave a report on the International Congress on Cancer held last July in Moscow which he attended.

Those attending the meeting were: Drs. C. C. Cohrs, R. H. Young, T. S. Fleming, W. D. Chute, L. E. Huber, C. C. Smith, S. S. Szymanski, A. P. Rowlette, Josephine Baker and Robert Hasson, Moberly; Drs. G. C. Rice and Dan Stuart, Brunswick; Dr. F. L. Harms, Salisbury; Dr. Carl Weger, Keytesville; Dr. F. A. Barnett, Paris, and Drs. James Campbell and Carl Rinker, Macon.

J. Will Fleming Jr., M.D., *Secretary*

FOURTH DISTRICT

PAUL R. WHITENER, ST. LOUIS, COUNCILOR

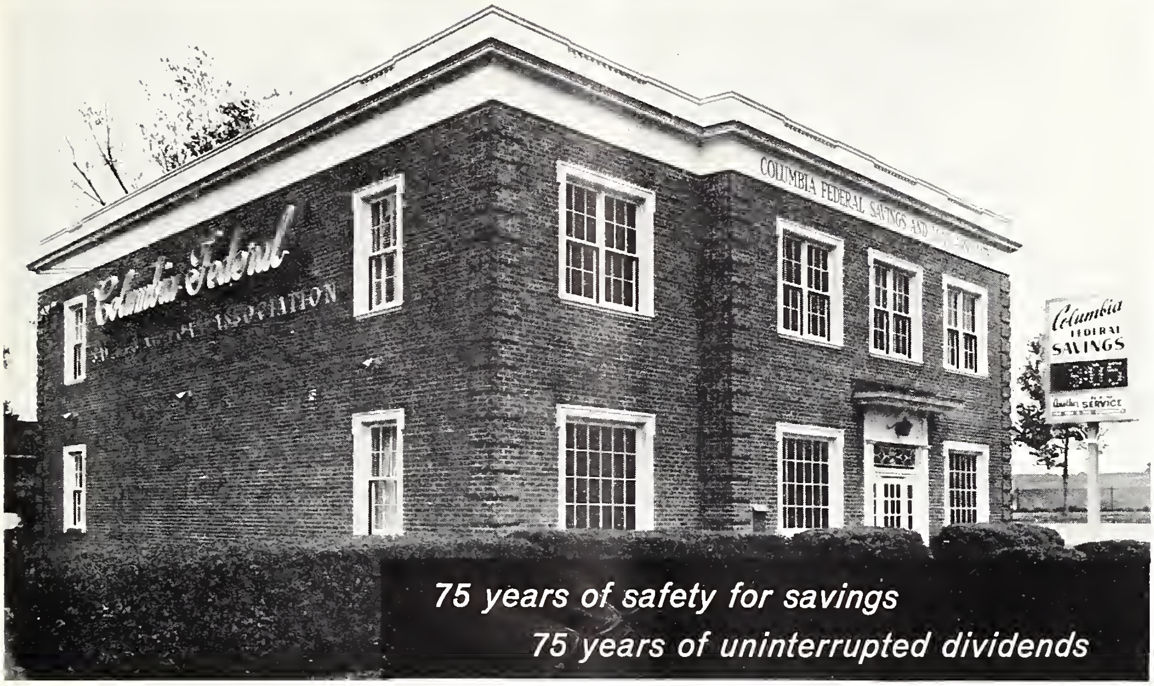
Jefferson County Medical Society

A special meeting of the Jefferson County Medical Society was held at 8:00 p.m. November 28, 1962, at the home of Dr. Allbee.

A panel type discussion on "The Immediate Emergency Management of Trauma" was conducted by Dr. Allbee with Dr. George Hawkins, neurosurgeon; Dr. Richard Yore, thoracic surgeon and Dr. J. Otto Lottes, orthopedic surgeon as guest panelists. The discussion centered around a composite case resulting from an auto accident and the proper manner in which this case and similar cases should be managed immediately on their admission to the hospital.

Special guests included Dr. Van Taylor, Bonne Terre, and Drs. R. E. Weible, J. H. Hagen, R. L. Cayce and C. T. Mangos, Crystal City and Festus. Medical Society members present included Drs. R. H. Allbee, W. T. Judge, H. E. Donnell, K. V. McKinstry, C. E. Rice, H. Yoskit, J. L. Mayfield, E. J. Senn and F. L. Kozal.

The program as presented was stimulating and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thought provoking. Many new ideas on emergency management were brought out during the discussion.

Special refreshments were provided through the courtesy of Dr. Allbee and the Jefferson Memorial Hospital kitchen staff.

F. L. Kozal, M.D., *Secretary*

Lincoln-St. Charles County Medical Society

A dinner meeting of the Lincoln-St. Charles County Medical Society was held at the Southern Air in Wentzville on Tuesday night, November 20. Following a social hour and dinner, an interesting and informative program was presented by Lester Wolcott, M.D., Chief, Section of Physical Medicine and Rehabilitation, University of Missouri Medical School, Columbia. Dr. Wolcott spoke on the subject, "Physical Medicine and Rehabilitation With Emphasis on General Practice."

Following Dr. Wolcott's presentation, a lengthy general discussion period took place. A good audience of the Society was present to benefit from this particular program.

V. P. Muenster, M.D., *Secretary*

SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

Henry, Johnson, Pettis, Saline, Lafayette-Ray County Medical Societies

A joint dinner meeting of the Henry, Johnson, Pettis, Saline, Lafayette-Ray and adjacent county medical societies and the doctors' wives was held at the Sky Haven Inn, Warrensburg, on Wednesday evening, November 28. The evening festivities began with a social hour at 6:30 p.m. followed by dinner and then the program.

The scientific presentation was given by John Modlin, M.D., Professor and Chairman, Department of Surgery, University of Missouri Medical School, on the subject, "Life Saving Measures for the Severely Injured Patient." This was a practical and well discussed subject.

Following dinner the ladies held a separate meeting at the home of Mrs. Reed Maxson where a special program had been arranged.

Mario Gonzales, M.D., *Secretary*
Johnson County Medical Society

West Central Missouri Medical Society

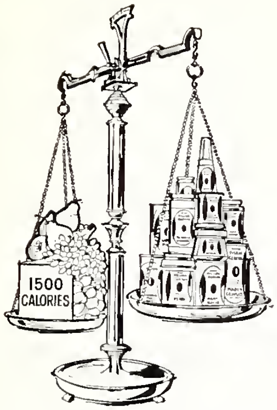
The November meeting of the West Central Missouri Medical Society was held at Harrisonville, Thursday evening, November 8. The social hour was held at the suburban home of Dr. and Mrs. O. B. Barger. This was a delightful hour with a most charming hostess and her daughter serving the most delicious hors d'oeuvres and cocktails to suit the taste. Following this activity the members and their wives proceeded to the Wagon Wheel Cafe, Harrisonville, for a fine steak dinner.

Dr. Donald Giesler, president, introduced Dr. and Mrs. Donald Dowell, Chillicothe, to those present. Dr. Dowell, President of the Missouri State Medical Association, spoke in a casual and informative way concerning the civil defense program of the state and strongly urged the societies to take more interest in this most important program. He talked about the Missouri Medical Foundation through which Missouri medical students can obtain financial assistance for medical education and stressed the fact that of the $75,000.00 set aside by the Missouri State Medical Association in a special fund for student loans that to date less than $5,000.00 remained in the fund. It is suggested that all doctors over the state remember this fund and place there whatever amount they feel they can to help future doctors obtain aid while trying to get through medical school. These contributions are deductible as a tax matter.

Following the talk by Dr. Dowell the report of the nominating committee was received by the president and the following officers were elected for 1963: President, Edward Jones, Harrisonville; Vice President, A. W. Ecklund, Pleasant Hill; Secretary-Treasurer, Carter W. Luter, Butler. Delegates: Bates County, C. A. Lusk Jr., Delegate, A. L. Hasen, Alternate; Cass County, Edward Jones, Delegate, H. A. Tracy, Alternate; Vernon County, Rolla Wray, Delegate, James Pascoe, Alternate; Cedar County, Robert Magee, Delegate, William Richter, Alternate; St. Clair County, Don Giesler, Delegate, Robert Brownsberger, Alternate.

A request for transfer of Dr. Ned Gorrell from the Jackson County Medical Society to this society was presented by Dr. Rolla Wray of Nevada and approved. Dr. Gorrell is handling the x-ray departments of the State Hospital and the City Hospital in Nevada, and the Cedar County Hospital at Eldorado Springs. He is moving his office to Nevada to be more in the center of his work.

No further business was presented and the group adjourned until the December meeting in Butler at which time we will have our Christmas



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Five-Fruit Juice Breakfast Drink	½ cup	20	52
Braised Beef and Vegetables	6½ oz.	184	380
Meat Balls in Brown Gravy	3½ oz.	84	280
Chopped Chicken Livers	1 oz.	31	100
Chicken a la King	3 oz.	72	230
French Style Dressing	1 tbsp.	10½	60
Brown Gravy	1 tbsp.	7	21

	Quantity	Figure Control Calories	"Regular" Food Calories
Applesauce	½ cup	48	90
Fruit Cocktail	½ cup	44	90
Cherry Pie Filling	1 oz.	20	60
Chocolate Topping	1 tbsp.	8	63
Preserves (Peach, Strawberry)	1 tbsp.	9	55
"Maplette" Syrup	1 tbsp.	9	55
Liquid or Powder Sweetener	(to equal 1 tbsp. of sugar)	0	16

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program with Dr. Robert Myers of Kansas City as speaker.

Carter W. Luter, M.D., *Secretary*

EIGHTH DISTRICT

DOYLE C. McCRAW, BOLIVAR, COUNCILOR

Ozarks Medical Society

A dinner meeting of the Ozarks Medical Society was held Tuesday evening, November 13, at Uncle Zeke's Cafe in Aurora with 18 members, Auxiliary and guests present. Following a fine dinner Dr. William H. Penninger, Springfield, gave an excellent discussion on "Fractures of the Upper Extremities Exclusive of the Hand."

A business meeting followed the scientific program.

J. Lewis Yates, M.D., *Secretary*

NINTH DISTRICT

E. A. STRICKER, ST. JAMES, COUNCILOR

Mid-Missouri County Medical Society

The Mid-Missouri County Medical Society and the doctors' wives held a dinner meeting in the Pine Room of the Greyhound Bus Station in Rolla on Thursday night, November 15. The evening festivities began with a social hour followed by dinner and then an interesting and informative panel discussion on "Tranquilizers and Brain Metabolism" by Robert L. Russell, M.D., Associate Professor of Pharmacology, University of Missouri Medical School, and Philip J. Marco, M.D., Assistant Professor of Psychiatry, University of Missouri Medical School.

Following the scientific program a business session was held at which time officers for the year 1963 were elected. The new president will be Dr. B. J. Bass, Salem; Vice Presidents will be William R. Lytle, Rolla; A. R. Baumann, Steelville; M. M. Hart, Salem; Clyde S. Miller, Waynesville and R. W. Froelich, Lebanon. The vice presidents also served as the censor committee of the Society. M. K. Underwood of Rolla was reelected Secretary-Treasurer. Delegates to the MSMA 1963 Annual Session are M. K. Underwood, Phelps County; A. R. Baumann, Crawford County; B. J. Bass, Dent County; C. S. Miller, Pulaski County, and R. W. Froelich, Laclede County.

The Missouri State Medical Association's Medical Student Loan Fund program was brought up for discussion and the needs of the fund for additional contributions was fully explained. The Society voted unanimously to donate $50.00 from the Society's treasury to the fund. In addition, a number of individual members of the Society wrote out checks to the fund and directed that the secretary send these to the MSMF. Other members indicated pledges to the Foundation. Here is concrete evidence on the part of the Mid-Missouri Medical Society to have a hand in helping worthy Missouri resident medical students secure their M.D. degree.

M. K. Underwood, M.D., *Secretary*

TENTH DISTRICT

W. D. ENGLISH, CARDWELL, COUNCILOR

Mineral Area County Medical Society

A joint dinner meeting of the Mineral Area County Medical Society and the lawyers of the area was held on Thursday evening, November 29, at the St. Francois Country Club, a few miles north of Farmington. The evening festivities were initiated with a social hour followed by dinner and then an outstanding presentation by T. Hartley Pollock, Attorney from St. Louis. Mr. Pollock discussed two subjects of particular interest to his audience at the present time; namely, "Tax Retirement Program for the Self Employed," and "Professional Corporations." Mr. Pollock devotes a good part of his practice to problems relating to taxation and estate planning which are related to the subjects he discussed. Mr. Pollock is also the attorney for Missouri Medical Service (Blue Shield) of St. Louis.

Joint meetings of the doctors and the lawyers of the Mineral Area have been held for the past few years and are considered of real value to both groups.

Paul Dennis, M.D., *Secretary*

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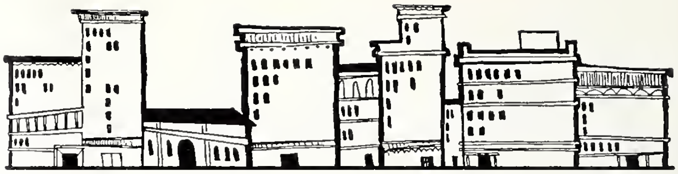

WASHINGTON UNIVERSITY

Surgery Prize Awarded

Two physicians on the faculty of Washington University School of Medicine have been awarded a prize by the American Academy of Arts and Sciences for their accomplishments in the treatment of diseases affecting the human genito-urinary system.

Dr. Justin J. Cordonnier, professor of urology, and Dr. Eugene M. Bricker, associate professor professor of clinical surgery, received a Francis Amory Prize for the suggestion, careful development, application and evaluation of urinary diversion by ureteral transplantation to a segment of ileum.

Four Francis Amory Prizes, totaling $24,000 for the invention or discovery of measures for the relief or cure of diseases involving the reproductive system were awarded this year by the Academy in recognition of accomplishments of the last seven years.

Dr. Cordonnier and Dr. Bricker are both graduates of Washington University School of Medicine and both took advanced training at Barnes Hospital. They have both been members of the faculty of the Medical School since 1938. Dr. Cordonnier is an associate surgeon at Barnes Hospital and Dr. Bricker an assistant surgeon.

Past Officers Honored

Life membership certificates have been presented to nine past chairmen of the advisory boards of the Child Guidance and Child Evaluation Clinics of Washington University School of Medicine. The scrolls honored outstanding leadership and dedication in child guidance. Receiving the awards were Frank Ackerman, Mrs. Ellen Lee Brashear, Sam I. Golman, Mrs. Marjorie Frank Lesser, F. Carl Schumacher, Dr. Alfred Schwartz, Elwin R. Smith, Albert I. Stix Jr. and Dr. Bordon S. Veeder.

Aviation Seminar Held

Sixty aviation medical examiners from Illinois, Indiana and Missouri met at the School of Medicine for a seminar held in cooperation with the Federal Aviation Agency in late November. The seminar was the sixth held in the central region since July as a refresher course for the medical examiners.

Federal Aviation Agency speakers during the three-day meeting included Dr. George R. Steinkamp, Deputy Civil Air Surgeon for Research and Operations; Dr. Charles W. McMillin, Regional Flight Surgeon, and Dr. Vernie A. Stembridge, professor of pathology at Southwestern Medical School and consultant pathologist to the FAA.

They discussed certification of aviation medical examiners and medical aspects of aircraft accident investigations.

Medical evaluation of pilots and physiological changes that may occur during flight were discussed by members of the faculty at Washington University School of Medicine.

Appearing on the program were Dr. Harry Fozzard, instructor in medicine; Dr. Andrew J. Gay, assistant professor of neurology and ophthalmology; Dr. Arthur S. Gilson, associate professor of physiology; Dr. J. Russell Little, special fellow in microbiology; Dr. George E. Murphy, assistant professor of psychiatry; Dr. J. Roger Nelson, instructor in clinical medicine; Dr. James L. O'Leary, professor of neurology; Dr. Gordon M. Schoepfle, associate professor of physiology, and Dr. Theodore Walsh, professor of otolaryngology.

Medical Society Meets

A symposium on infectious agents was held for the second meeting of the year of the Washington University Medical Society. Moderator for the symposium was Dr. Carl G. Harford, associate professor of medicine. Dr. Malcolm H. McGavran, assistant professor of pathology, presented a paper on "Rift Valley Fever Virus Hepatitis: Light and Electron Microscopic Studies in the Mouse." Dr. Margaret Smith, professor of pathology, discussed "Cytomegalic Inclusion Disease—Studies of the Virus-infected Cells in Tissue Cultures." Dr. John C. Herweg, assistant professor of pediatrics and Dr. Helen Thornton, research assistant professor of microbiology in pediatrics, presented a paper on "Infection of Escherichia Coli C 'Protoplasts' with Bacterio-

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phage X174 DNA." "The Biological Significance of the Streptococcal Cell Wall" was discussed by Dr. Richard M. Krause, professor of epidemiology.

Staff Activities

Dr. James Turner, instructor in clinical pediatrics, has been elected vice president of the St. Louis Pediatric Society. Dr. George J. L. Wulff Jr., assistant professor of clinical obstetrics and gynecology, was elected vice president of the Central Association of Obstetricians and Gynecologists, which met recently in Dallas. Dr. Harold K. Roberts, assistant professor of clinical medicine, was co-chairman and research co-ordinator for the 1962 Diabetes Detection Campaign conducted in St. Louis. He is also first vice president of the St. Louis Diabetes Association and governor of the American Diabetes Association of Missouri. Dr. Wendell G. Scott, clinical professor of radiology, has been named vice president and president-elect of the American Cancer Society.

Speaker at the annual Beaumont Pilgrimage held by the St. Louis Medical Society was Dr. O. P. Hampton Jr., assistant professor of clinical orthopedic surgery.

Dr. David Goldring, professor of pediatrics, has been named president of the St. Louis Heart Association.

Dr. Edward W. Dempsey, dean of the School, attended the Albert Lasker Medical Research Awards Luncheon in New York City as a representative of the awards jury. Winner of the Lasker Clinical Research Award was Dr. Joseph Smadel, a 1931 graduate of the School and now chief of the laboratory of virology and rickettsiology at the National Institutes of Health.

Dr. John E. Kirk, associate professor of medicine, spoke on enzyme chemistry of the vascular wall at a conference on the fundamentals of vascular grafting at the the State University of New York Downstate Medical Center.

Dr. Paul Preisler, research assistant professor of biochemistry, was a lecturer in a seminar on the Bill of Rights presented for public school teachers in Kansas City. Dr. Preisler is the holder of a law degree in addition to his work in biochemistry.

Dr. J. Harold Burn, visiting professor of pharmacology from Oxford University, has returned to England. On his return trip he presented the Herter Lecture on "The Mechanism of the Adre-

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Lectures

Dr. Jacques Monod, director of the Service de Biochimie Cellulaire at the Pasteur Institute and professor at the Sorbonne, presented the sixth annual Philip A. Shaffer lecture at the School of Medicine. He spoke on the regulation of gene activity.

Presenting a lecture on prospective epidemiology was Dr. Rene Dubos, professor at the Rockefeller Institute. Dr. Dubos was also a speaker for the biology council of Washington University.

Mrs. Donna Munger, archivist for the School of Medicine Library, discussed the relation of William Henry Welch and the School of Medicine at a meeting of the History of Science and Medicine Society. Dr. Welch was principal speaker at the dedication of the medical school building in 1914.

UNIVERSITY OF MISSOURI

Meetings at the Medical Center

A conference on "The Changing Character of Medical Education" was presented by the University of Missouri School of Medicine Friday and Saturday, Sept. 7 and 8 in the Medical Center. The conference was designed to place before the educational staff of the School and the Medical Center the various recent changes and advances in the field of medical education, as an aid in evaluating such changes and advances in relation to the needs of the University School of Medicine. Ten outstanding educators in medicine or closely associated fields, eight of them from other universities and two from the University of Missouri, formed the guest faculty of the conference. The guest instructors spoke on their particular areas of medical education, and also took major roles in round table discussions in which about 90 members of the Medical Center staff were asked to participate.

The third annual M.D. Day program at the Medical Center was held Nov. 9, designated as 1962 M.D. Day at the University, and continued into the morning of Nov. 10. The program included a scientific session of postgraduate educational activities throughout the day Nov. 9 and during the morning Nov. 10, and concluded with a buffet luncheon at noon Nov. 10. Members of the faculty of the University of Colorado School of Medicine this year were the guest participants in the program and cooperated with

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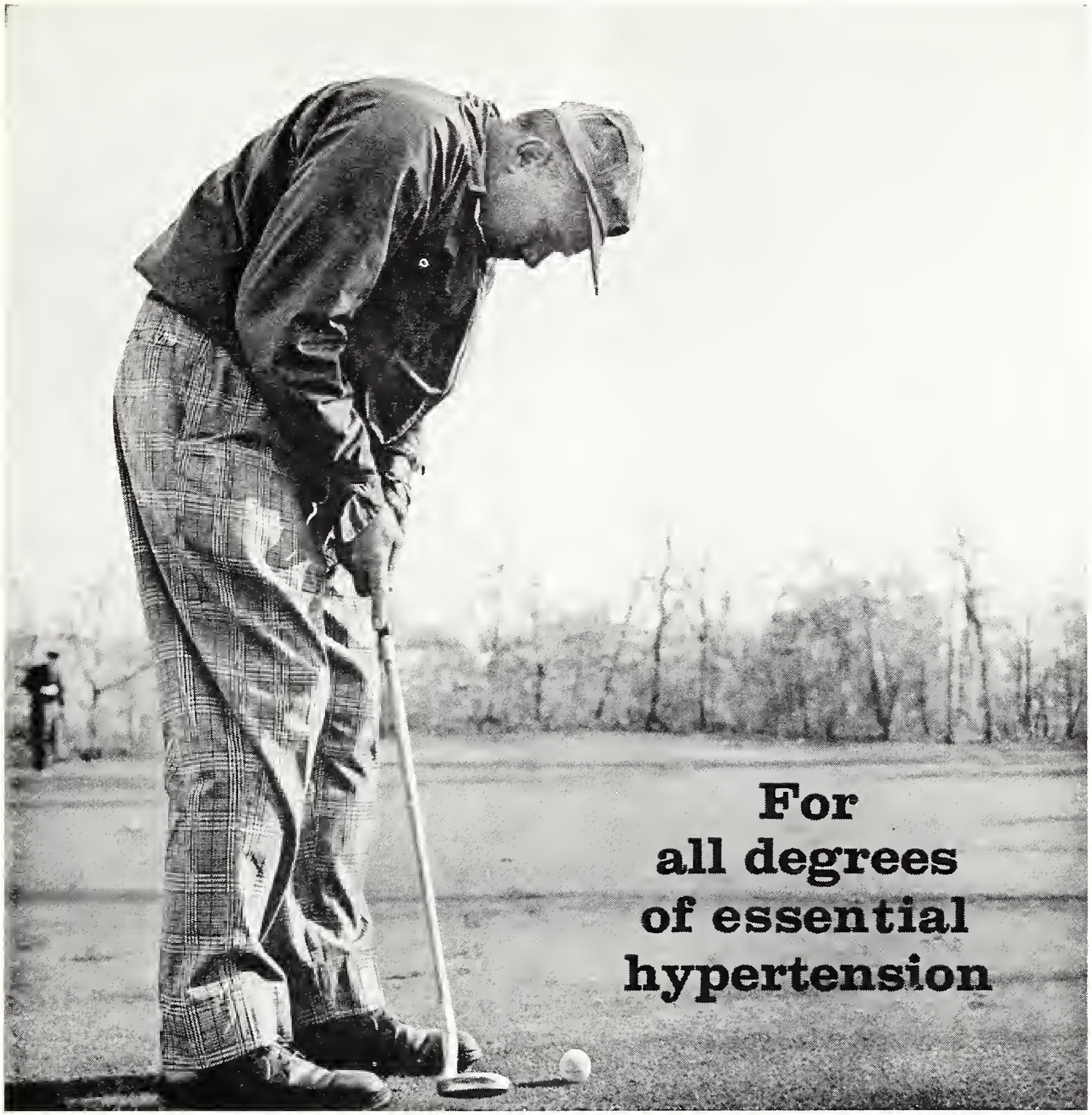

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Rautrax-N combines Raudixin (antihypertensive-tranquilizer) with Naturetin c̄ K (antihypertensive-diuretic) for greater antihypertensive effect and greater effectiveness in relief of hypertensive symptoms than produced by either component alone. Rautrax-N is also flexible (may be prescribed in place of Raudixin or Naturetin c̄ K) and economical (only 1 or 2 tablets for maintenance in most patients).

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†Hutchison J. C.: Current Therap. Res. *2*:487 (Oct.) 1960.

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members of the University of Missouri School of Medicine faculty in panel discussions and presentation of scientific papers.

A Genetics Symposium at which specialists in various fields of human genetics and molecular biology presented papers on current developments in modern genetics was held at the University of Missouri Nov. 12 and 13. The symposium faculty included nine guest members, eight of them from educational institutions in the United States and one from the University of London King's College, London, Eng. Sessions were held in Jesse Auditorium, opening at 9 a.m. each day. The program, intended to help provide a background for scientists interested in understanding current developments in modern genetics, was sponsored by the School of Medicine, the Graduate School, the College of Agriculture, and the Extension Division of the University, in cooperation with the Missouri Academy of General Practice.

New Appointments

Dr. J. Frederick Sparling of Johns Hopkins Hospital has been appointed as medical director of Kansas City General Hospital and Medical Center under an agreement of affiliation between the General Hospital and Medical Center and the University of Missouri School of Medicine. Dr. Sparling's appointment was made by the General Hospital and Medical Center with the mutual agreement of the University of Missouri.

Under the agreement of affiliation, which was recently approved by the University of Missouri Board of Curators, the direct administrative, fiscal and legal responsibilities for health care programs within the institutions of the Kansas City General Hospital and Medical Center are vested in the Board of the General Hospital and Medical Center. The administration of educational programs, including the academic appointments of the professional staff members of the General Hospital and Medical Center will be under the direct administration of the University.

Outpatient Educational Service Resumed

The outpatient educational service resumed during the week of September 24. Mr. Lee Barrows is in charge of this year's program. His office will be in room N121, and he is available daily from 10:40 a.m. to 12:40 p.m. Additionally, he will attend the several departmental staffing sessions. Several graduate students in education will be assigned to work with him.

ANNUAL CLINICAL CONFERENCE

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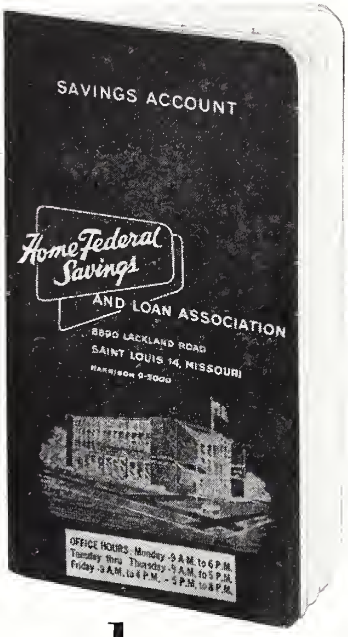
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Trips and Talks

Dr. James A. Green, associate professor of anatomy, attended a symposium on the biochemistry of hormone action at the Jewish Hospital in St. Louis, Oct. 12. While in St. Louis he visited the department of anatomy at Washington University Medical School.

An Amputee Clinic has been established in the Medical Center under the direction of Dr. Lester E. Walcott, chairman of the department of physical medicine and rehabilitation, and Dr. George N. Austin, chairman of the section of orthopedic surgery. The clinic meets in the Physical Medicine Department on the 2nd and 4th Thursday of each month and is attended by limb manufacturers from Springfield, Kansas City and St. Louis, as well as representatives from the social service department, the physical therapy department, the orthopedic house staff and the office of vocational rehabilitation.

Dr. Georg Dambowy, chief medical officer and director of the Heart Disease Control Program in Cologne, Germany, is in the United States under the sponsorship of the World Health Organization. Dr. Dambowy visited Dr. Carl Marienfeld, professor and chairman of the department of community health and medical practice and other staff members, from Sept. 29 to Oct. 2.

Dr. Marienfeld attended the American Heart Association in Highland Park, Ill., from Sept. 26-29, and the American Academy of Cerebral Palsy meeting held in Miami, Fla. from Oct. 2-5, was attended by Drs. Lester E. Wolcott, and George Austin. Dr. Marienfeld also attended a sub-committee meeting to plan the 1963 conference "Research, Graduate Education and Post-doctoral Training in the Department of Preventive Medicine" held in St. Louis Sept. 24. Dr. cine and Rehabilitation. "Successful Lasation in the meeting of the Academy of Physical Medicine and Rehabilitation. "Successful lasation in Chronic Disease and Disability" was the topic of discussion for the near 400 physiatrists in attendance.

Dr. Henry M. Parrish, associate professor of community health, spoke at a meeting of the Kansas City Industrial Medicine Association Sept. 15, describing the plans of the department of community medicine at the University of Missouri in training medical students and resident physicians in industrial medicine.

Dr. Frank B. Engley, Jr., professor and chairman of the department of microbiology, attended

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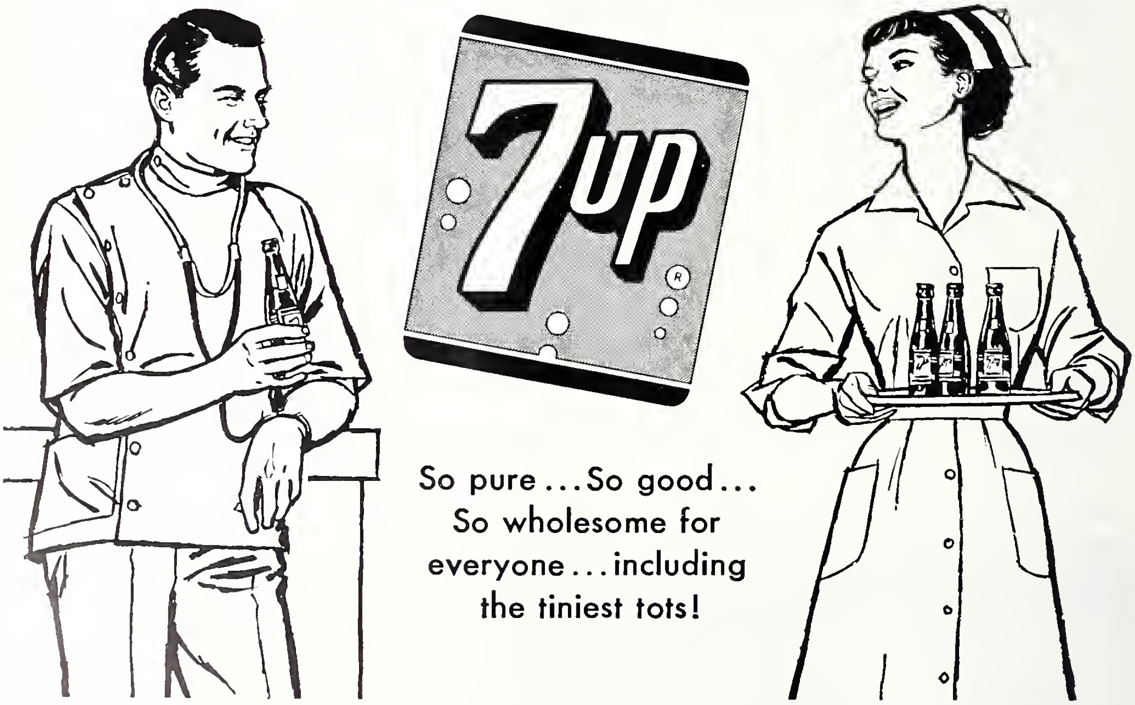

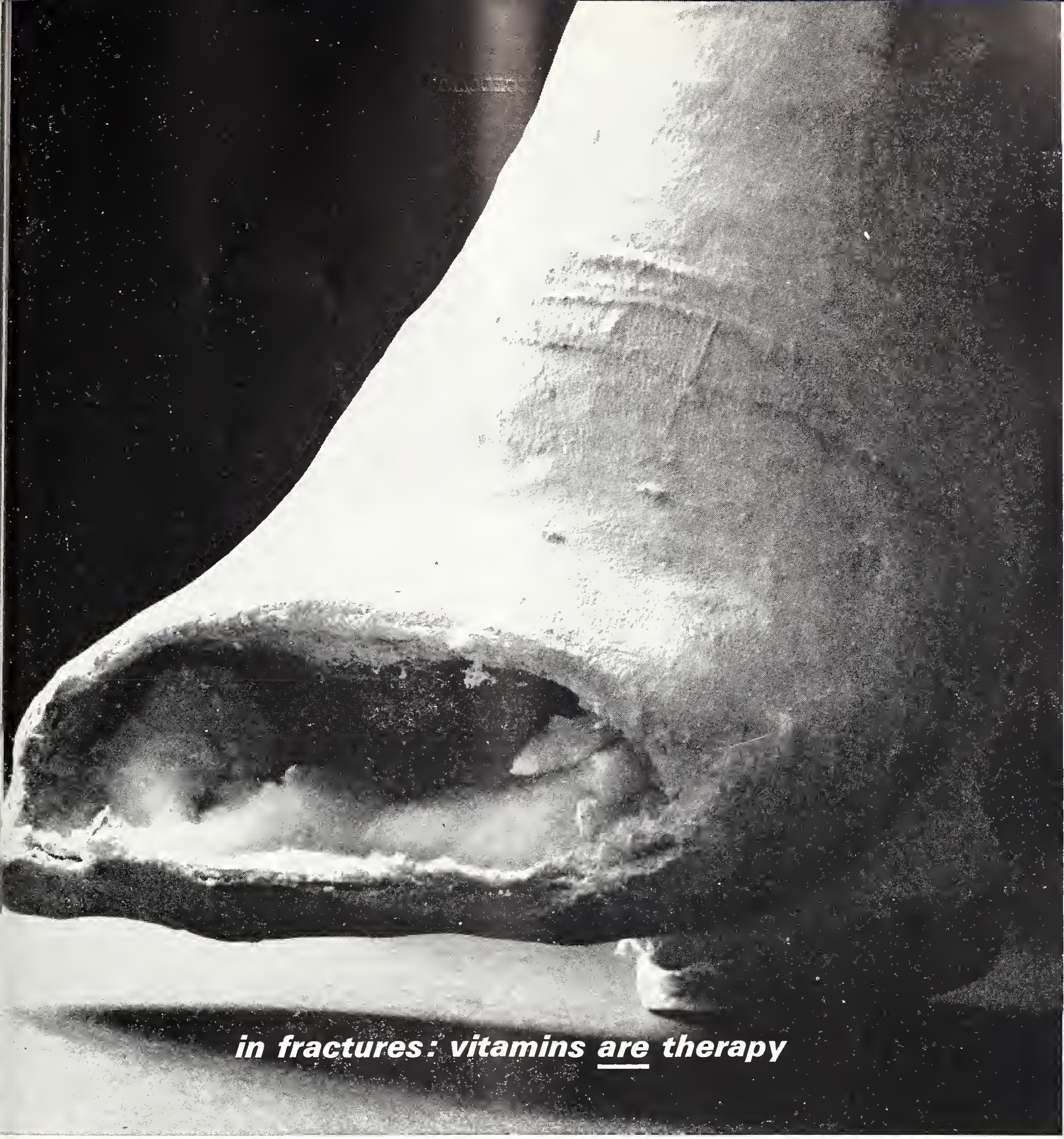

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the Missouri Public Health Association Executive Board meeting in Jefferson City, Sept. 27. Oct. 12 to 17 he attended the American Public Health Association meetings in Miami, Fla. While in Miami he took part in a conference on Hospital Environments presenting a paper on "Surface Sampling Procedures," attended the Conference on State and Provincial Health Officers and took part in the meetings of the Committee on Education and Committee on Germicides.

Dr. Donald P. Durand, assistant professor of microbiology, attended a meeting sponsored by the University of Southern California Oct. 3 to 5, held in Bethesda, Md. The meeting was held to discuss information relevant to teaching of virology to medical students, the topic being, "Newer Respiratory Disease Viruses." About 500 attended.

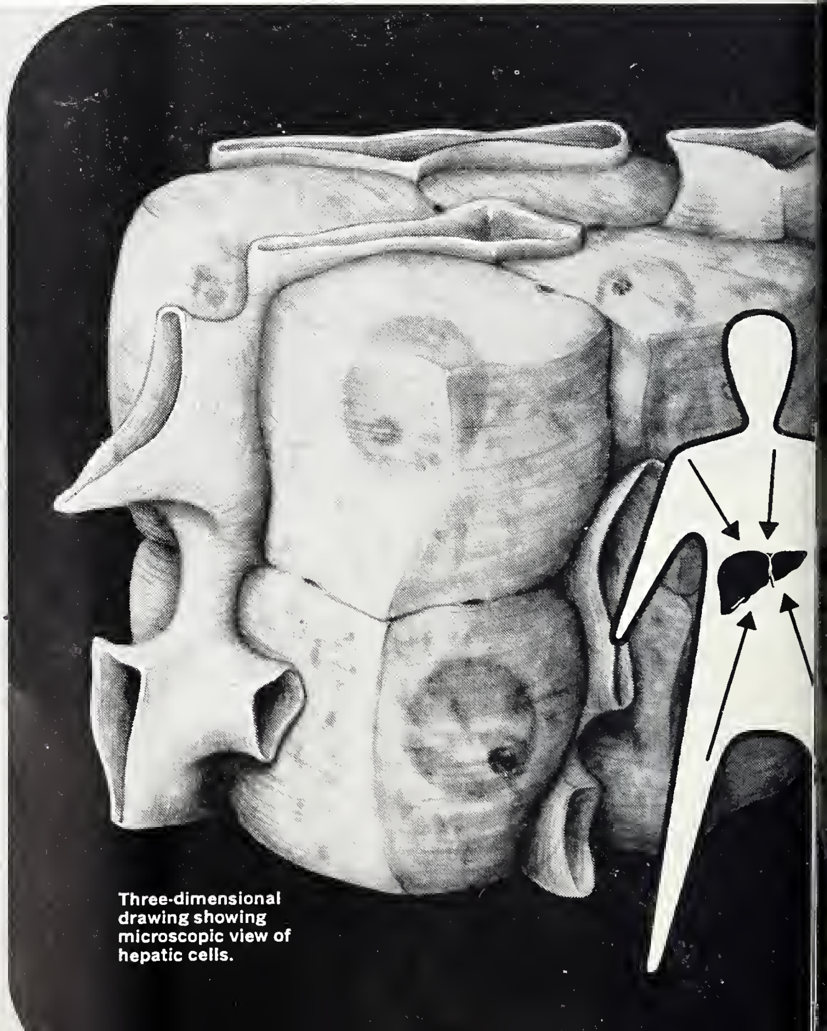
Dr. David G. Hall, associate professor and chairman of the department of obstetrics and gynecology, gave a lecture on "Endometrial Cytology" at a meeting of the Kansas City Gynecological Society Sept. 28 in Kansas City.

Dr. William T. Griffin, resident physician in OB-GYN, lectured on "Advanced Molar Pregnancies—Diagnosis and Management" at a meeting of the District VII, of the American College of Obstetricians and Gynecologists, held in Little Rock, Ark. on Sept. 20.

Dr. Fikri M. Hanna, assistant professor of pediatrics, attended the Tenth International Congress on Pediatrics held in Libson, Portugal, September 9 to 15. He presented the following two papers from the department of pediatrics co-authored by Dr. Robert L. Jackson, professor, and Dr. Leovigildo Cokingtin, instructor in pediatrics, "Changes in Body Composition in Malnourished Infants Fed Different Levels of Protein" and "Changes in Body Water and Its Distribution in Normal Infants Fed Different Levels of Protein." Recent findings in pediatrics research and clinical pediatrics were discussed at the Congress, at plenary and group sessions. About 2,500 professional persons attended. The Congress was sponsored by the International Union of Pediatric Societies and the department of pediatrics at the University of Libson.

Dr. Harry Stoeckle, associate professor of pediatrics, attended a dinner meeting of the Mid-Missouri Medical Society held in Rolla, Sept. 27. The topic of discussion was "The Problem of Cyanosis in the Newborn."

Dr. Constantine S. Anast, associate professor of pediatrics, and Dr. Ernest E. McCoy, assistant professor of pediatrics, attended a symposium on



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"The Biochemical Aspects of Hormone Action at the Jewish Hospital in St. Louis, Oct. 12. The meeting was sponsored by the Jewish Hospital, St. Louis University School of Medicine and Washington University School of Medicine. Dr. McCoy also attended a symposium on Birth Defects at Vanderbilt University in Nashville, Tenn., sponsored by the National Foundation, Sept. 27 and 28.

Dr. Clement E. Brooke, associate professor and chairman of the department of pediatrics, was moderator for a panel discussion on "Public Resources for Mentally Disturbed Children," at the 1962 Program Conference and Annual Meeting of the Missouri Association for Mental Health, Sept. 21 and 22. The meeting, held at the Daniel Boone Hotel in Columbia, Mo., had as its main topic of discussion, "Mental Health Through the Child."

Dr. Lucile F. Adamson, research assistant professor of pediatrics, attended the West Central States Biochemistry Conference sponsored by the Oklahoma State University Oct. 19 and 20 at Stillwater, Okla.

The following members of the department of physiology and pharmacology attended the Symposium on Biochemical Aspects of Hormone Action, Oct. 12 at the Jewish Hospital in St. Louis: Drs. D. K. Meyer, professor of physiology, Dr. W. S. Platner, professor of physiology, Mr. T. O. Moore, graduate assistant, Mr. B. B. Pharriss, graduate assistant, and Mr. C. A. Robb, assistant instructor.

Mr. George A. Hedge, and Mr. Robert W. Metzger, graduate students in pharmacology, have been notified of their awards of predoctoral intermediate fellowships from the National Institutes of Health, effective September 1, 1962.

Dr. James M. A. Weiss, professor and chairman, department of psychiatry, Drs. Robert H. Barnes and Henry V. Guhleman Jr., clinical associate professors of psychiatry, and Dr. Louis Belinson, clinical assistant professor of psychiatry, attended an AMA meeting in Chicago, Oct. 3 to 6. The meeting, a National Congress on Mental Illness and Health, sponsored by the AMA, with the cooperation of the American Psychiatric Association and the support of the National Association for Mental Health, was the first one of its kind held, its purpose being to implement the broad new mental health program developed by the Council on Mental Health of the AMA and adopted by the AMA Board of Trustees. Dr. Weiss represented both the University of Missouri School of Medicine and the Missouri State

(Continued on page 92)

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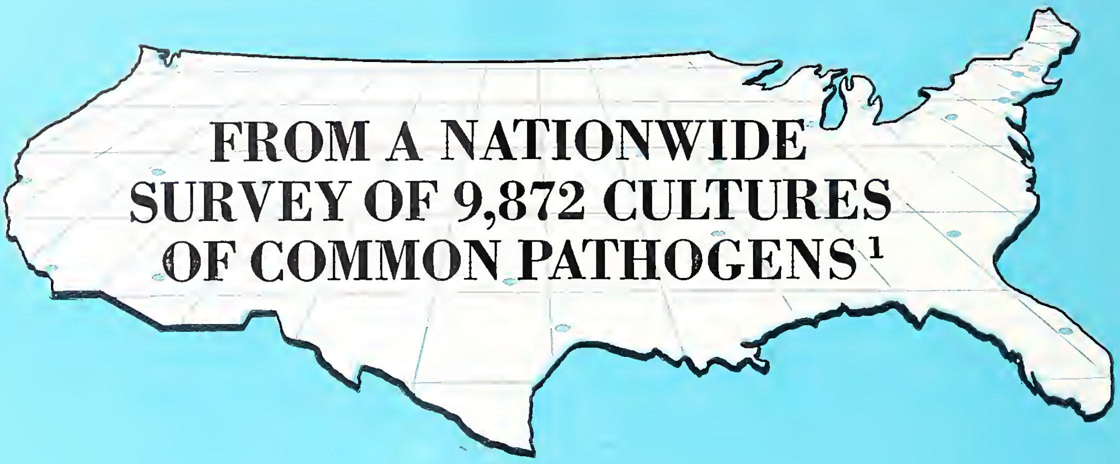


FROM A NATIONWIDE SURVEY OF 9,872 CULTURES OF COMMON PATHOGENS[1]

Conclusions of Nationwide Survey: *Report I*

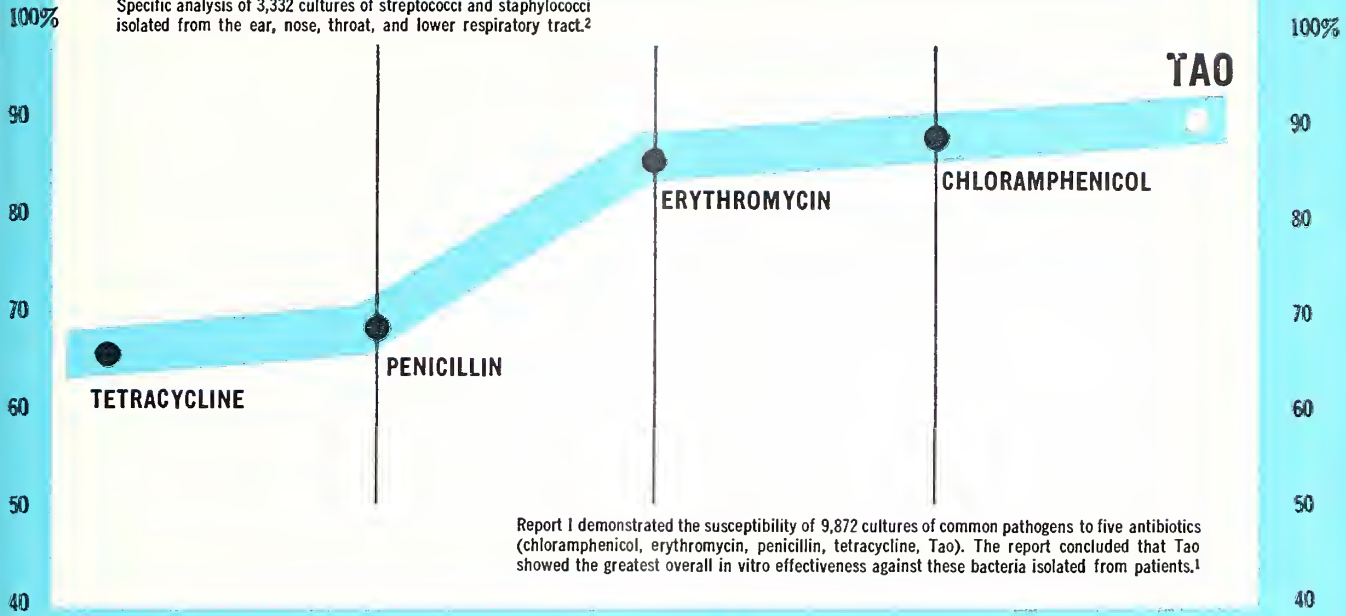
1. **Even after five years of general use,** Tao, of the antibiotics tested, demonstrated greatest activity against respiratory streptococci and staphylococci (3,332 cultures).

2. **Overall results showed a higher percentage of susceptibility among these common pathogens to Tao than to the other antibiotics.** Susceptibility to Tao was greatest, not only in respiratory streptococci and staphylococci, but also in these organisms isolated from skin and soft tissue (3,423 cultures), genitourinary and gastrointestinal tracts and other sources (2,458 cultures). Susceptibility was equal to all antibiotics tested in pneumococci from unspecified sources (463 cultures), and less to Tao in H. influenzae from unspecified sources (196 cultures).

3. **Tao has been used for five years without development of predictable cross resistance.** In 1958 and 1961, approximately 73% and 70%, respectively, of erythromycin-resistant problem staphylococci showed susceptibility to Tao.[3,4] The present study confirms the continuing high degree of Tao activity even against these pathogens. Of 1,592 cultures of erythromycin-resistant staphylococci, 68% were susceptible to Tao, while in the reverse situation, only 33% of 768 Tao-resistant staphylococci were susceptible to erythromycin.

Report II

Specific analysis of 3,332 cultures of streptococci and staphylococci isolated from the ear, nose, throat, and lower respiratory tract.[2]



Report I demonstrated the susceptibility of 9,872 cultures of common pathogens to five antibiotics (chloramphenicol, erythromycin, penicillin, tetracycline, Tao). The report concluded that Tao showed the greatest overall in vitro effectiveness against these bacteria isolated from patients.[1]

Report II

Results of Bacterial Susceptibility in 3,332 Respiratory Pathogens

References

1. "Bacterial Susceptibility Patterns: A Geographic Survey." Fowler, J. Ralph, M.D., and Watters, John L., M.D. Scientific Exhibit presented at the Annual Meeting of the American Society of Clinical Pathologists, Chicago, Ill., August 31 to September 9, 1962. 2. Fowler, J. Ralph, Watters, John L. and Levy, Arthur M.: Bacterial Susceptibility Patterns as Related to Geographic Variation and Anatomical Source. In press. 3. English, A. R., and Fink, F. C.: Antibiot. & Chemother. 8:420 (Aug.) 1958. 4. English, A. R., and Fink, F. C.: Antibiot. and Chemother. 11:648 (Oct.) 1961.

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Medical Association at the meeting. All four University of Missouri-affiliated psychiatrists were appointed to the Missouri State Steering Committee to implement the recommendations of the Congress.

October 15 through 19 Dr. Weiss attended a meeting of the American Public Health Association, held in Miami Beach, Fla. At the meeting he was elected Councilor of the Section on Mental Health for a three year term. He was also appointed to membership on the Committee on Chronic Disease and Rehabilitation. Dr. Weiss, Dr. Fernando Tapia, associate professor of child psychiatry, and Dr. Rodman Kabrick, associate professor of clinical psychology, attended a meeting of the Missouri Association for Mental Health at the Daniel Boone Hotel in Columbia, Sept. 21 and 22. Dr. Tapia and Dr. Kabrick acted as panelists in a workshop of "The Role of the Home" in mental health for children, and Dr. Weiss was a member of the program committee and served as a discussant.

Dr. Kabrick, Dr. Jacob Sines, Dr. Theodore Henrichs and Dr. Donald Kausch attended a meeting of the Missouri Psychological Association Oct. 13, at the Tan-Tar-A Lodge, Lake of the Ozarks, Missouri. Dr. Tapia was a moderator in a workshop cosponsored by the APHA and the AOA, at a meeting of the American Public Health Association in Miami, Fla., Oct. 16 to 19. The topic of discussion was "Use of the Child's Social Environment as a Health Developing and Therapeutic Tool."

Dr. David Davis, associate professor of psychiatry, and Dr. Robert E. Froelich, assistant professor of psychiatry, attended a two-day symposium entitled "Unfinished Tasks in the Bahavioral Sciences" in Chicago, Ill., Oct. 13 and 14. The meeting was sponsored by the Chicago Medical School Institute for Medical Research.

On October 1 and 2, Dr. Gwilym S. Lodwick, professor and chairman of the department of radiology, attended a committee meeting of the Association of University Radiologists held in Washington, D. C.

Dr. Henry McQuade, associate professor of radiology, attended an Organ Scanning Symposium held at the University of Chicago September 26 through 29 for purposes of viewing new equipment and increasing competence in scanning patients at the Medical Center.

Dr. Theodore E. Keats, professor of radiology, recently visited the University of Virginia Medical School. From Charlottesville, he and his family went to Washington, D. C., where Dr. Keats attended the meetings of the American Roentgen Ray Society and the Society for Pediatric Radiology. Dr. Keats presented a paper at the latter meeting entitled, "Generalized Osteosclerosis Secondary to Metastatic Medulloblastoma."

Dr. Donald Q. Cochran, assistant professor of radiology, Dr. Paul C. Wheeler and Dr. Kenneth L. Rall, resident physicians, attended the meeting of the American Roentgen Ray Society in Washington, D. C., Sept. 30 to Oct. 5, where he presented a paper entitled "A Study of the Effects of Barium and Intestinal Contents on the Peritoneal Cavity." Dr. Wheeler presented a paper at the meeting of the Society for Pediatrics Radiology entitled, "The Left Aortic Diverticulum as a Component of a Constricting Vascular Ring: Report of Two Neonatal Cases." Dr. Wheeler also attended the meeting of the American Roentgen Ray Society. Dr. Rall was in charge of an exhibit related to a research project on mammography being conducted by Dr. Keats, Dr. Rall, Mr. Koenig and Darrell Wood of the department. The exhibit was on display at the meeting of the Roentgen Ray Society.

Dr. Kenneth K. Keown, professor of anesthesiology, attended a meeting of the section of anesthesiology of the American Medical Association, Oct. 6 and 7 in Chicago, as secretary of the section. The meeting was for the Section Secretaries to plan the program for the annual meeting to be held in June in Atlantic City, N. J.

Dr. Hugh Stephenson Jr., professor of surgery, was moderator for a panel on "New Advances in Cardiac Surgery," which included Dr. Jack Martt, Dr. Harry Stoeckle and Dr. John Schuder, at a dinner meeting, Thursday, September 27 in Rolla, Mo. The meeting was sponsored by the Mid-Missouri Medical Society. Dr. Stephenson talked on "Cardiac Surgery in the Infant," and showed movies of heart operation procedures on the aortic valve. Dr. Stephenson also spoke to the Rotary Club, Sept. 20, in Columbia, on his recent trip to Russia and showed slides and movies.

Dr. Ian M. Thompson, professor of surgery (urology), was guest speaker on a panel on urology at the meeting of the Kansas City Southwest Clinical Society in Kansas City, Oct. 1 to 3. Oct. 10 to 13, Dr. Thompson, Dr. Gilbert Ross Jr., instructor in surgery, and Esther P. Profeta attended a meeting of the North Central Section of the American Urological Association, Inc. in Detroit. They presented a paper, "Renal Concen-

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*Schwartz, I. R.:
Current Therap. Res. 3:29, Feb., 1961.

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trating and Diluting Ability in the Post-Transurethral Prostatectomy Patient."

From Oct. 20 to 22, Dr. G. W. N. Eggers Jr., associate professor of surgery, anesthesiology, was an examiner for the American College of Anesthesiology, and attended the meeting of the American Society of Anesthesiologists.

Dr. George N. Austin, associate professor of surgery (orthopedic surgery), and Dr. Lester Wolcott, instructor in community health and medical practice, attended the annual meeting of the American Academy for Cerebral Palsy in Miami Beach, Fla., Oct. 3 to 6. Dr. Austin was also recently elected to regular membership in the Clinical Orthopaedic Society, a society composed of active orthopedic surgeons in the central portion of the U. S.

ST. LOUIS UNIVERSITY

Wohl Institute to Open

The David P. Wohl Memorial Mental Health Institute, newest addition to the St. Louis University Medical Center, will open its doors to private patients on January 14.

Dr. Edward T. Auer, Director of the Institute, says 30 beds of the Institute's 60 bed unit will open at that time. Both private and semi-private facilities will be available.

The Institute, located at 1221 S. Grand Boulevard, is staffed by the St. Louis University School of Medicine. Patient admissions will be arranged only through staff members of the Department of Neurology and Psychiatry of the University's Group of Hospitals.

Miss Phyllis Lee has been appointed psychiatric nursing supervisor, while Mrs. Elizabeth Vaught has assumed new duties as recreational therapy supervisor.

Built on a three level scheme, the Institute is an open facility composed of a series of three functional 20 bed living units each looking upon a landscaped courtyard.

It is linked by underground tunnel with Firmin Desloge Hospital, Cardinal Glennon Memorial Hospital for Children and the School of Medicine at St. Louis University.

Dr. Auer joined the St. Louis University School of Medicine faculty last September as director of the Department of Neurology and Psychiatry.

TB Society Gift

An electron microscope has been presented to the Pathology Department of the St. Louis University School of Medicine by the Tuberculosis and Health Society of St. Louis to advance research into respiratory disease.

Officials from the Tuberculosis and Health Society and University administrators and members of the University's Pathology Department attended the presentation.

Dr. G. O. Broun Sr., dean, School of Medicine, accepted the $30,000 gift for the University from Mrs. Richard A. Sutter, president of the Tuberculosis and Health Society of St. Louis.

Dr. John P. Wyatt, director of the department of pathology at the St. Louis University, described the research work to be conducted in using the new equipment.

He said the electron microscope will enable the Department of Pathology to study the finest structures of the lung tissue and to gain a better understanding of the intricacies of respiration, gas exchanges within the lung and dynamics of lung disease.

Research studies will include investigations into tuberculosis, pulmonary emphysema and other chronic lung diseases.

Other representatives from the Tuberculosis and Health Society of St. Louis at the ceremony were: Dr. David M. Skilling Jr., chairman, medical committee, and Mrs. Ellen Boyce, executive director.

Others attending the ceremony were: The Very Rev. Paul C. Reinert, S.J., University president; Rev. Edward T. Drummond, S.J., vice president for the Medical Center, and Dr. Henry Pinkerton, professor of pathology.

A plaque designating the installation of the electron microscope by the Tuberculosis and Health Society of St. Louis was affixed to the door leading to the laboratory, where research will be conducted by Dr. Chao Sun, electron microscopist and assistant professor of pathology.

Elections

Dr. R. Walter Schlesinger, director of the department of microbiology, has been elected to membership in the University's Chapter of Alpha Omega Alpha, honorary medical society. Dr. Henry Oppenheimer, associate professor of clinical medicine, has been elected councilor of the Missouri State Diabetes Association. John B. Warner, director, St. Louis University Hospitals, has been installed as president of the Missouri Hospital Association. Edward C. Clement, controller, Desloge Hospital, has been installed as president of the St. Louis Chapter of the American Association of Hospital Accountants.

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Dosage: Hold one NEPHENALIN tablet under the tongue for five minutes to abort the asthmatic attack promptly. Then swallow the tablet core for four full hours' protection against further attack. Only one tablet should be taken every four hours. No more than five tablets in 24 hours.
Supplied: Bottles of 50 tablets. For children: NEPHENALIN Pediatric, bottles of 50 tablets.
Caution: Do not administer NEPHENALIN with epinephrine. The two medications may be alternated at 4-hour intervals. NEPHENALIN should be administered with caution to patients with hyperthyroidism, acute coronary disease, cardiac asthma, limited cardiac reserve, acute myocardial damage, and to those hypersensitive to sympathomimetic amines. Phenobarbital may be habit forming. THOS. LEEMING & CO., INC., New York 17, N.Y.

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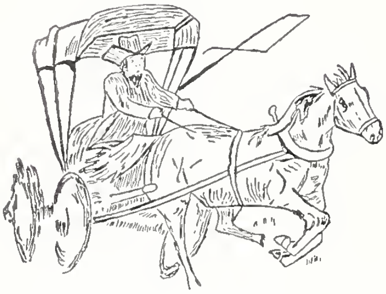
Missouri Medicine in Review



FORTY YEARS AGO

The National Tuberculosis Association, after careful study of all research work being carried on in that field of work, has assigned first rank to the investigations of Dr. Eugene L. Opie, Professor of Pathology in the School of Medicine of Washington University, and in recognition of his work has awarded a grant of $3,000 for the twelve months beginning November 1, 1922, for the further prosecution of his researches.

Dr. Duncan D. Campbell, of Chicago, has been appointed superintendent of State Hospital No. 2, St. Joseph.

An act of the legislature of the State of Washington, passed in 1921, exempting children from physical examination in the public schools, was, under the referendum, rescinded at the polls November 7.

The semi-annual meeting of the American Society of Neurological Surgeons was held at St. Louis, December 15 and 16. The meetings were held in Dr. Sachs' clinic at Barnes Hospital and Washington University Medical School. The membership numbers twenty-one. The Society was founded in March 1920, by Dr. Harvey Cushing of Boston, and Dr. Ernest Sachs of St. Louis. Dr. Cushing was the first president and Dr. Frazier is the president this year. Dr. Sachs has been secretary since the founding of the society.

TWENTY-FIVE YEARS AGO

Dr. Lloyd R. Jones, St. Louis, Assistant Professor of Bacteriology, St. Louis University School of Medicine, addressed the Trudeau Club of St. Louis on December 2 on the subject, "The Biology of the Tubercle Bacillus."

The second annual Clinical Conference of the Midwestern Radiologists will be held in Kansas City at the Muehlebach Hotel, February 11 and 12. Dr. Ira H. Lockwood, Kansas City, is chairman of the local committee.

Mr. Edwin Moss Watson, Columbia, an honorary member of the Missouri State Medical Association, died of cerebral hemorrhage at the Boone County Hospital, Columbia, November 30, aged 70 years. Mr. Watson had for many years been editor and publisher of the *Columbia Daily Tribune*. He was the son of the late Dr. and Mrs. B. A. Watson.

Dr. Harry W. Tull, Carrollton, a graduate of the Missouri Medical College, St. Louis, 1891, died of cerebral hemorrhage on October 1, 1937, aged 69 years. Dr. Tull had been in active practice in his home community for more than 45 years. He was the third generation of physicians in his family, his father, the late Dr. Littleton Tull, was one of the pioneer physicians of Carroll County. Dr. Tull had been a member of the Carroll County Medical Society for many years.

TEN YEARS AGO

In October 1952, Terramycin was added to the list of drugs covered without limit for hospitalized Blue Cross members. In June, 1952, 6,000 new members were added in Kansas City's fourth nongroup enrollment. Like the first three, this campaign was open to everybody, regardless of age or employment. Total for all four enrollments is nearly 50 thousand.

Philip A. Tumulty, M.D., Baltimore, Maryland, has been appointed director of the department of internal medicine at St. Louis University, effective next spring, by the Very Reverend Paul C. Reinert, S.J., president of the University. Dr. Tumulty at present is associate professor of medicine and physician at Johns Hopkins Medical Institutions. He succeeds Ralph A. Kinsella, M.D., who has been director of the department since 1924 and who will continue as professor on the school faculty and on the staff of St. Mary's Group of Hospitals.

Ernest Spitzer, M.D., St. Louis, recently was awarded a renewal of his diploma upon the occasion of the 50th anniversary of his graduation from the University of Vienna.

Alphonse McMahon, M.D., St. Louis, was

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elected president-elect of the Southern Medical Association at the recent annual session. At the same session, St. Louis was chosen as the meeting place in 1954, the session at which Dr. McMahon will preside.

J. R. Bridges, M.D., Kahoka, was one of the honored guests at a community gathering at Revere on October 28 when more than 500 persons assembled to pay tribute to Dr. J. L. McConnell on his 80th birthday.

Morning worship service at the Presbyterian church of Lexington on November 2 was dedicated to those engaged in the art of healing, particularly to C. T. Ryland, M.D., Lexington.

Everett D. Sugarbaker, M.D., Jefferson City, was reelected president of the Missouri Division of the American Cancer Society at a meeting November 9.

Guy N. Magness, M.D., University City, has been appointed University City Director of Health.

J. F. Harrison, M.D., Mexico, was conferred a 50 year button by the Masonic Hebron Lodge No. 354 A.F. & A.M. at a ceremony in Mexico on November 5.

The Pettis County Medical Society held a dinner meeting at the old Missouri Homestead, Sedalia, Nov. 17, honoring H. A. Hite, M.D., Green Ridge, who completed fifty years in practice.

CORRESPONDENCE

October 30, 1962
St. Louis, Mo.

To the Editor:

May I be allowed to answer a few of Dr. Reitman's remarks concerning pathologists and medical technologists (ASCP-MT) in his letter in the November issue of MISSOURI MEDICINE.

To follow Dr. Reitman's line of reasoning, I expect that the average butcher can be taught to make as neat an incision as the best of surgeons and surely a seamstress can place a neater stitch. Does this then qualify them to practice surgery? Admittedly, many chemists know more about chemical reactions than many pathologists and most bacteriologists know more about bacterial morphology and growth characteristics than many pathologists, but does this qualify them to practice medicine? The Council of the AMA as well as the Medical Societies of our sister states, Illinois and Iowa, are on record that they regard the practice of Pathology, both Pathologic Anatomy and Clinical Pathology, as the practice of medicine. It then must be governed by the ethics of medicine. Just because there are not enough technicians that are fully trained and qualified is no reason to find fault with training qualified technicians. Surely, there is no group of physicians other than those in the American Society of Clinical Pathologists with the experience to judge the type of training required by technologists to render the best type of care for the patients, no matter where they are seen.

Since the graduates of commercial schools come in the main from rural areas and go back to rural areas because of job opportunity are we then to conclude that the rural hospital does not need good laboratory service. It is an insult to the pathologists to conclude that there is any reason for our insisting that the best trained technologists be used to perform tests other than interest in patient care. The AMA approved schools (ASCP-MT) enrollment is up 10 per cent this year and with help some day all patients will have their tests performed by properly trained and adequately supervised technologists.

In closing I cannot help but wonder if Dr. Reitman is incensed as a physician or because he is the director of the Gradwohl School of Laboratory Technique, an institution not approved for training by the American Society of Clinical Pathologists or the Council on Medical Education on Hospitals of the American Medical Association.

Sincerely yours,
T. J. COOPER, M.D.

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WASHINGTON

All-Out Fight for Health Care Planned By President in New Congress

While Congress will have been in session long enough that trends will be evident by the first of February, a report of an interview by a *Post-Dispatch* correspondent on December 28 left no doubt as to the President's wishes for the new Congress. The report was based on a meeting of the President with top aids at his Palm Beach home. In part the report was as follows:

"President Kennedy has decided to make an all-out fight next year for a federal program of health care for the elderly through Social Security, but his advisors are divided on whether the bill can be pushed through Congress before 1964. . . .

"Aids said that medical care for the elderly and legislation to cut taxes will be the top domestic issues on the President's program for Congress next year. It is clear that some advisors believe that the medical care issue should be given priority.

Congress Will Decide

"They concede, however, that regardless of which receives top billing from Mr. Kennedy, Congress will decide which it wants to consider first. Representative Wilbur D. Mills (Dem.), Arkansas, chairman of the House Ways and Means Committee, which will handle both measures, has indicated that he wants to take up the tax bill first.

"Some top presidential aids are opposed to this approach. They feel medical care should be considered first. One who took this view remarked 'Medical Care is the keystone of our program. It is needed as soon as we can get it.'

"A top Kennedy aid is scheduled to confer soon with Mills to discuss the order in which the bills will be taken up.

"There is a sharp difference of opinion among some top Administration officials on whether congressional action can be achieved next year on a medical care bill or whether it will be 1964 before the issue can come to a vote.

"One well-informed source said 'Speaking realistically, I don't think we can get it through in 1963 even if it is taken up first. I think it is much more likely to be 1964 before we can bring it to a vote.'

1964 Passage Predicted

"He predicted that the bill would pass in 1964.

"In support of his view that a vote might not come next year, he pointed out that Congress probably would hold extensive hearings on the plan. Further, it will face strong opposition from conservative Republicans, the American Medical Association and others, he said.

"In addition, he noted Mills' lack of enthusiasm for the plan. He predicted that if Mills should oppose the bill strongly, it would be virtually impossible to get it out of the House Ways and Means Committee.

"Ranking right behind the tax and medical care bills on the Administration's program of domestic legislation next year are federal aid to education and a proposal for creation of a department of urban affairs, informed sources said."

Timing May Be Important

Since the House Ways and Means Committee will consider both the tax reduction bill and the medical care for the elderly, the order in which they are considered will have considerable importance.

The tax bill will be controversial and without doubt extensive hearings will be held and time could run out before hearings on the medical care bill would have many hearings. In this case it is presumed that no action would be possible on the medical care of the elderly bill until the 1964 session of the Congress.

Senator Clinton P. Anderson (Dem.) has been quoted as saying that he will reintroduce the proposal for medical care for the elderly under Social Security in the same form as in the last session.

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MISSOURI LEGISLATURE NAMES LEADERS

Senator Albert M. Spradling Jr., Cape Girardeau (D.), 27th State Senatorial District, was reelected President Pro-tem of the Senate in a Democratic Senate caucus on November 12. The President Pro-tem appoints all committee chairmen and the members of all committees in the Senate.

Senator John W. Joynt, St. Louis, is majority floor leader. Senator Noel Cox, Spokane, is the Republican floor leader.

In the House of Representatives, State Representative Thomas D. Graham, Jefferson City (D.), was reelected Speaker of the Missouri House of Representatives. Representative Joseph W. Beckerle, St. Louis, was selected as Speaker Pro-tem, and Representative James G. Trimble, Clay County, was reelected majority floor leader.

State Representative Ronald M. Belt, Macon, was elected Republican floor leader.

The House of Representatives will be made up of 62 Republicans and 101 Democrats. The Senate is made up of 24 Democrats and 10 Republicans.

The Senate Committe on Public Health and Welfare is composed of William J. Cason, Clinton, Chairman; Albert M. Spradling Jr., Cape Girardeau, Vice Chairman; William E. Hilsman, St. Louis; T. D. McNeal, St. Louis; Michael Kinney, St. Louis; John P. Barrett, St. Louis; Keith Bondurant, Kansas City; Maurice Schechter, Creve Coeur; John Johnson, Affton; William Baxter Waters, Liberty; A. Basey Vanlandingham, Columbia; Jack Curtis, Springfield; Thomas G. Woolsey, Versailles.

The House Committee on Public Health and Safety is composed of Frank L. Mickelson, Freeman, Chairman; Fred E. Copeland, New Madrid, Vice Chairman; Fred R. McMahon, Fairfax; Frank Ellis, Sedgewickville; Monty Harlow, Springfield; M. E. Bauer, Kansas City; J. McKinley Neal, Kansas City; Charles A. Sheehan, House Springs; Oscar L. March, Aurora; Ralph Wigfield, Chillicothe; Helen Hardy, Belle; Joe Taylor, Neosho; Stephen H. Zellmann, Linn; Les D. Lankford, Chaffee; V. M. Baltz, Eminence; Luther Arnold, Reeds Spring; DeVerne Lee Calloway, St. Louis.

GOVERNOR DALTON'S RECOMMENDATIONS TO LEGISLATURE

Among Governor Dalton's recommendations to the Missouri Assembly were the following:

"I should like also to reemphasize my previous recommendations that you give full support to the well-designed plans of the Mental Health Commission for the three intensive treatment centers at Columbia, Kansas City and St. Louis; for improved facilities in the care and treatment of the mentally retarded, and to better conditions in our overcrowded and understaffed state mental hospitals. . . .

"I urge you to revise the statutes to permit increasing old-age and blind pension payments to a maximum of $70 monthly, instead of the present $65 monthly.

"Our indigent old people badly need assistance in getting adequate medical care. I hope you will provide means for the State of Missouri to receive federal aid for this purpose under the Kerr-Mills bill, but that you will approach this matter with extreme caution, making certain that the state cannot become involved beyond a reasonable ability to meet costs. . . ."

MISSOURI HAS 278 HEALTH INSURING ORGANIZATIONS

At the end of 1961 there were 278 health insuring organizations in Missouri, according to the Health Insurance Institute. These were listed as 253 insurance companies, four Blue Cross-Blue Shield plans and 21 other health plans.

In comparison with other states, Texas leads followed by New York and Illinois. Other states with more than 300 are Pennsylvania 349, Florida 332, California, 324, Indiana 320 and Ohio 319.

The states in the 250-299 bracket are Missouri 278, Washington 276, Georgia and Oklahoma 272, Colorado 270, Tennessee 266, Michigan 265, Maryland 257 and Virginia 253.

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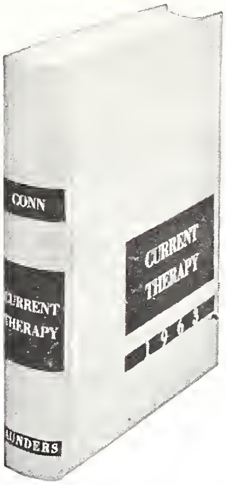

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C. G. STAUFFACHER, M.D., Secretary

Missouri Academy of General Practice

Approximately 200 people attended the St. Louis Academy of General Practice Installation and Dinner Dance at the Missouri Athletic Club in St. Louis on Saturday night, December 1. This occasion saw the first woman physician to be installed as president of the St. Louis Academy. Dr. Lois Wyatt of Kirkwood has been an active member of the Academy since its foundation and certainly she deserves the honor as well as the responsibility of the presidency of the St. Louis Academy. It is predicted that she will work hard in this position and that the St. Louis Academy will continue its progress under her direction. Dr. Wyatt received the gavel from the retiring president, Dr. Wilbur A. Mullarky, who was in charge of the evening ceremonies. As her first official duty, President Wyatt presented an honorary plaque to Dr. Mullarky in recognition of his services during the past year and as the 16th President of the St. Louis Academy.

Dr. Mullarky was in charge of the ceremonies.

Dr. Wyatt received the gavel from retiring president, Dr. Mullarky.

Other incoming officers of the Academy present were: Dr. Charles A. Nester, President-Elect; Dr. Barney W. Finkel, Vice-President; Dr. Charles Ladd, Secretary, and Dr. Paul M. Parashak, Treasurer. Three new members to the Board of Directors introduced were Drs. Samuel Schultz, E. H. Schaper and Jack Steele. The presence of Dr. Vernon Wilson, Dean of the University of Missouri Medical School, at this signal affair, further points to his interest in general practice and particularly in the affairs of the Academy.

Dr. Davis presented roses to Dr. Wyatt.

Dr. E. W. Davis, President of the St. Louis County Medical Society, and Dr. C. E. Brooks, President of the St. Louis Dental Society, and their wives were present to bring greetings from their particular societies.

During the ceremonies Dr. Davis presented a beautiful bouquet of roses to Dr. Wyatt on behalf of the St. Louis County Medical Society of which she is an active member.

Following the excellent dinner and formal ceremonies, special entertainment from Gaslight Square was presented. Comedian Davey Bold opened up with jokes and songs which seemed to please his entire audience. In addition, Joan Cameron, his singing partner, gave an excellent performance. Following this well received formal entertainment, the orchestra took over and dancing was in order.

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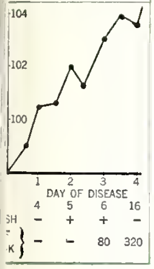

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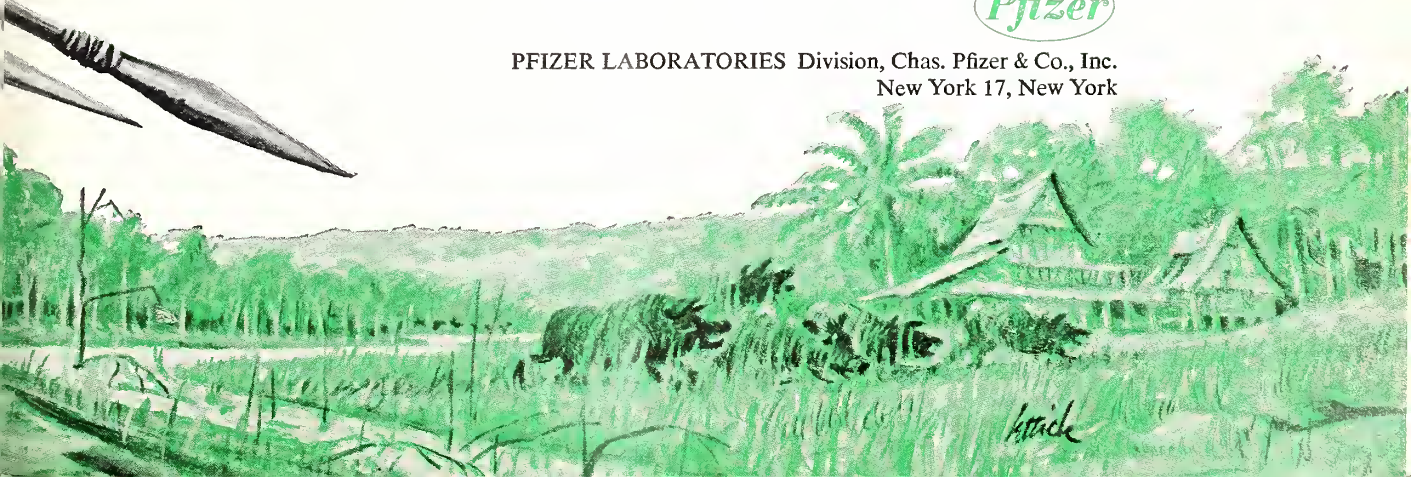

Woman's Auxiliary

The gray days of winter have closed in. The stark rigid maples outside my window quiver in the icy wind, as the pompus evergreens nearby seem to huddle together for warmth. Burnished rays of a setting sun thrust faint-hearted fingers between the layered clouds. I feel like settling down for that "long winter's nap," but many tasks await the doing. Foremost of them all are the plans for the coming Annual State Auxiliary Convention. The place this year is the Hotel Muehlebach in Kansas City, and the dates (get out that new calendar and circle them in red!) are March 24 to March 27. The Jackson County girls have always been the perfect hostesses and have led their guests to expect nothing but the best. You can just bet that we'll be heading for old K. C. confident that this year they will top anything they've ever done before. Remember, when you arrive—that you "know" everyone even though you may never have met before. The things we all have in common give us a solid footing for deep and lasting friendships in all corners of the state. Since becoming your president I have had the privilege of visiting 20 auxiliaries, in every one of which I can now picture dear faces and hear beloved voices. I can wish nothing finer for all of you—that you, too, get to know each other so well that when you meet it will be with a warm embrace.

Mrs. J. Martyn Schattyn

In a late December issue of the *A.M.A. News* I read an editorial on a subject upon which I have been expounding since taking office—that of Community Leadership. The editorial told of a group of three physicians and three dentists in Oklahoma City who recently took an active part in a campaign to pass nine bond issues totaling 47 million dollars. These issues were for sewers, streets, traffic lights and an addition to the zoo. Medicine was not directly involved in any of them. The bond issues passed and these men gained in stature. By their community spirit they demonstrated that they were interested in the "total" lives of their fellow citizens, not just in the medical aspect. Many times during the campaign as they took on speaking engagements, these men were asked why they were working so hard on matters not medical. Their answer, "Why shouldn't we? It's our community, too!"

Let us, likewise, encourage our husbands to take an active part—a positive stand—on community questions which are not necessarily medical. Of course they are busy, but so are clergymen, lawyers, engineers, executives. In order to be a "good" politician a man must first be mindful of the makeup and the needs of his community. He must have a personal stake in its growth and stability and he must be vitally concerned for its future. Remember, its "your community, too," and you, as a citizen, have a voice in its destiny.

The overall auxiliary picture in Missouri is one of steady progress in every field. We hear that the Civil Defense Medical Self-Help Kit training program is really catching on and in many areas has proved to be popular. Health Careers Recruitment is still "at the head of the class" in several auxiliaries. As an example, Jane Stewart, president of Pettis County, reports that in Sedalia, where the Auxiliary membership is 32, they have an enrollment of 82 young women in their Future Nurses Club. This must be a real challenge for them.

The subject of legislation is now more alive than ever. Right now while it is still a matter of "wait and see" our component auxiliaries are busy educating the public, showing the films of Dr. Annis' speaches and voicing medicine's views to neighbors and friends. An informed public is our best ally in the future struggle for the freedom, not only of medicine, but of every other facet of American life.

We are looking forward to great strides ahead here in Missouri in the mental health field, and sincerely hope that the future for the mentally ill will be a brighter one.

On every hand there is much to do. We hope and pray that we will find ourselves equal to the tasks which will be ours. The winter landscape is still gray without, but as I watch, like brilliant blossoms, two red birds stop to rest on the bare branches of the maples. Hardy little friends, they winter happily here, always reminding us that the beauty of spring cannot be far behind.

Volume 60, Number 2—February, 1963

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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VICTOR M. CARNES, M.D.; HERBERT J. SCHMIDT, M.D.;
DAVID HALL, M.D., *and* FRED V. LUCAS, M.D., *Columbia*

Endometrial Cytology

An uncomplicated technic for obtaining endometrial material for processing and examining is described.

Dr. Carnes is an Instructor in Pathology, Dr. Schmidt is a resident physician in obstetrics and gynecology, Dr. Hall is Associate Professor of Obstetrics and Gynecology and Chairman of the Department, and Dr. Lucas is Professor and Chairman of the Department of Pathology, University of Missouri School of Medicine.

This work was supported in part by Grants 2G-520 and RG-9928 from the United States Public Health Service, Department of Health, Education and Welfare.

Since a major reason for the effectiveness of the cytologic examination of the cervix uteri is that the epithelial cells to be examined are abraided directly from the surface of the cervix, it is not surprising that a similar technic has proved to be of value in the cytologic examination of the endometrium. A desirable technic must be perfectly safe, must present no particular technical difficulties and must yield material that offers no unusual problems of interpretation to the cytologist. A system first developed at the University of Virginia[2] using a small, simple brush and routine methods of fixation and staining satisfies these criteria.

Materials and Methods

The patients examined were those seen in the routine gynecologic clinic of the University of Missouri Hospital. Many of these patients were having menstrual irregularities, but some of them were having normal menstrual cycles and were seen for other reasons.

After the usual pelvic examination was done and cervical cytologic preparations were obtained the endometrial cavity could be brushed in a few additional minutes. A calibrated sound was introduced into the uterine cavity. The brush employed has a small, twisted wire handle which was grasped with ring forceps in such a way that the instrument could not be introduced too far into the uterine cavity. The bristles of the brush are moderately long and flexible so that brushing itself requires a minimum of manipulation. No complications have followed this procedure.

For experimental purposes on some occasions the endocervix was brushed first and then another brush was employed for the endometrium. For reasons that will be stated later the routine application of this technic does not require two brushings.

After the brushing was completed the brush was placed immediately in a tube of 0.1 M McIlvaine's buffer, pH 7. The brushes were swirled to free the particles of endometrium. Then the tubes were centrifuged and most of the sedimented material was set aside for enzyme studies. A small fraction, about 10 to 20 per cent of the total sample, was used for cytologic study. The material was spread on ordinary glass slides. From four to eight slides were employed. Fixation and staining then proceeded in a completely routine manner using the same methods as those employed by Papanicolaou[3] for cervical preparations.

Results

It is not necessary to interpret individual cells when this technic is used. In most preparations sheets of endometrial epithelial cells containing as many as two dozen cells can be found intact on the slides. These pieces of epithelium lie flat on the surface of the slide so that they are seen from a direction at right angles to the epithelial surface.

Since in the routine technic only one brush is used to obtain material, both endometrial and endocervical epithelia are found on the slides. It is therefore essential for the cytologists to be able to recognize endocervical epithelium. In fact, this is not difficult. Endocervical epithelium is seen in two forms. In one form the epithelial cell nuclei are much larger than those seen during any phase of the menstrual cycle in endometrial cells (fig. 1). Sheets of cells of this type are often seen in ordinary cervical preparations obtained with a spatula or tongue blade. In the other form the endocervical cell nuclei are small, perhaps pyknotic and the individual cell margins are extremely prominent (fig. 2).

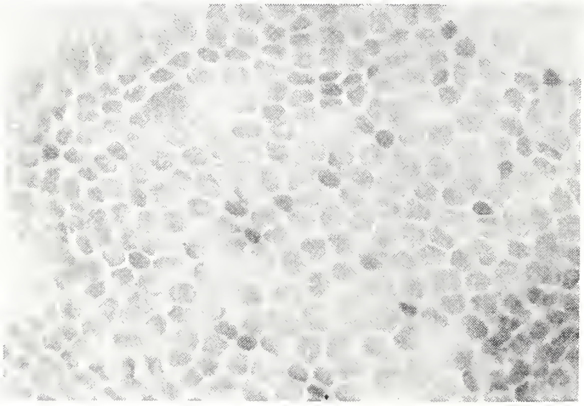

Fig. 1. Endocervical epithelium. Papanicolaou stain. X 400.

In proliferating endometrium the cell margins are not seen. The cytoplasm is homogeneous. The epithelial cell nuclei are regularly spaced and rather small. They have evenly distributed chromatin (fig. 3).

In the secretory phase, as would be expected, the cytoplasm of the epithelial cells is vacuolated. Cell margins can occasionally be seen, but they are never so prominent as those seen in endocervical epithelium. Furthermore, the nuclei in the secretory phase often have irregular margins and sometimes appear vacuolated themselves (fig. 4).

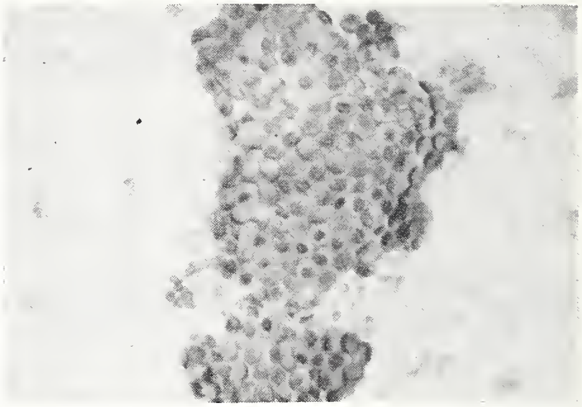

Fig. 2. Endocervical epithelium with pyknotic nuclei. Papanicolaou stain. X 400.

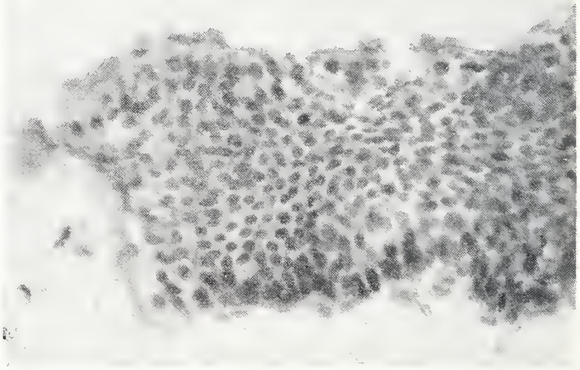

Fig. 3. Proliferative endometrial epithelium. Papanicolaou stain. X 400.

In simple hyperplasia of the endometrium the epithelium frequently is not distinguishable from that seen in the proliferative phase of the normal cycle. However, in other cases of hyperplasia of a more adenomatous type the cell nuclei show more variation in size and are, in general, larger. There are also mild chromatin disturbances, but it is not likely that cytologists accustomed to interpreting material from other sites would mistake the epithelium of endometrial hyperplasia for that of carcinoma (fig. 5).

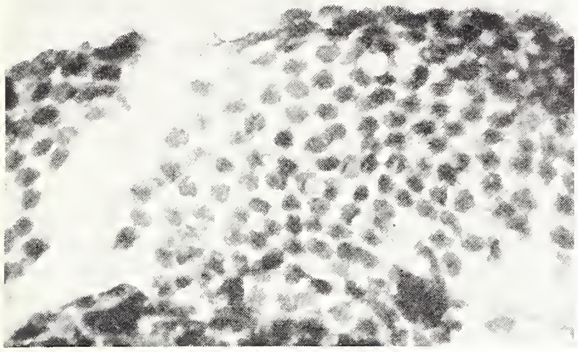

Fig. 4. Secretory endometrial epithelium. Papanicolaou stain. X 400.

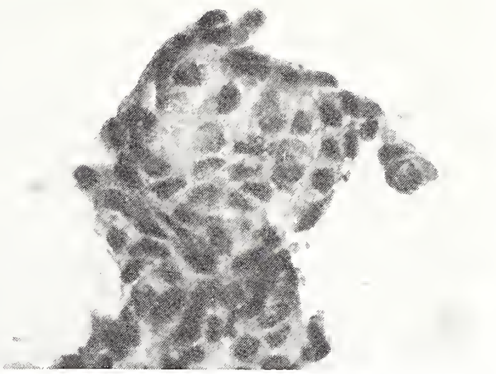

Fig. 6. Epithelium from adenocarcinoma of the endometrium. Papanicolaou stain. X 400.

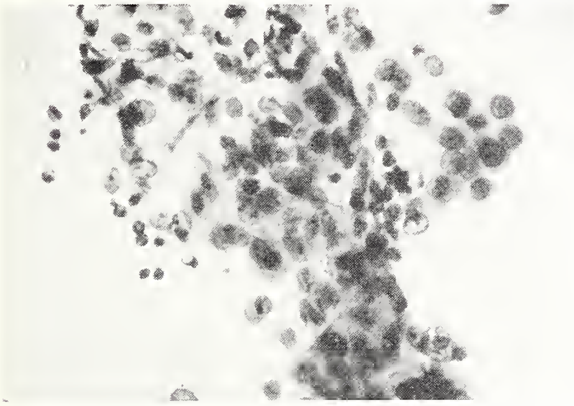

Fig. 5. Hyperplastic endometrial epithelium. Papanicolaou stain. X 400.

Several patients with endometrial carcinoma have been examined by brushing. The epithelium obtained satisfies the usual cytologic criteria of malignancy. There is marked variation in nuclear size, shape and chromatin pattern (fig. 6).

DISCUSSION

We believe that a simple, small brush such as we have used is perfectly adequate for obtaining endometrial specimens. Some other brushes designed for this purpose have included elaborate sheath assemblies in an attempt to obtain pure endometrial epithelium without mixture of endocervical epithelium.[1] In our opinion the cytologist should be capable of recognizing endocervical epithelium so that a simple brushing technic can be used without the danger of confusion.

We feel that the stage of the normal menstrual cycle can easily and dependably be determined by this technic. Many simple hyperplasias, however, will not be distinguishable from the proliferative phase of normal endometrium. The recognition of malignant change in the endometrial epithelium presents no unusual difficulties when the material is obtained by brush. However, if this technic is to be of value in the diagnosis of post menopausal bleeding, a negative preparation must have a high degree of dependability also.

SUMMARY

An uncomplicated technic for obtaining endometrial material by means of a small brush and for processing and examining this material is described. Simple cytologic criteria are discussed.

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and SHARON MAHON, B.S., *St. Louis*

Shriners Hospital Amputee Clinic

MANAGEMENT of children with amputations or extremity anomalies that later may require prosthetic replacement presents many unique problems. In January 1960, Dr. George Scheer* suggested that a special clinic be devoted exclusively to these children. The Shriners Amputee Clinic was organized by the authors in April of 1960 with the assistance and guidance of Drs. Charles Frantz and George T. Aiken of Grand Rapids, Michigan.[1, 2] Many of the principles of that clinic have been incorporated into this one. This is the only clinic devoted exclusively to the juvenile amputee in the Southcentral States. This clinic meets one day each month and is supported by the Shriners Hospital and the Daughters of the Nile who purchase all new prostheses, including maintenance, through the Hanger Artificial Limb Company. Braces, pylons and shoe corrections are made in the hospital brace shop.

One hundred and one children of all ages are currently under active treatment (table 1). Each child will be followed until 16 years of age.

Effective management of the juvenile amputee requires close supervision from infancy to adulthood by a coordinated trained team consisting of physician, physical and occupational therapist, prosthetist, orthotist and social worker. Regular systematic examination by the team is required every one to four months to insure that the proper appliance is being worn efficiently. If a child is using a prosthesis regularly, frequent maintenance is required. By close cooperation and pooling of information by the team, special problems of fitting and training can be better managed. This cooperative effort has resulted in the fabrication of many special prostheses which have been proved functional. The primary evaluation of the need for a prosthetic appliance is dependent upon a systematic evaluation of the functional and anatomic loss. In children with congenital malformations, the anatomic aberrations often retain good functional restoration potential. A knowledge of the efficiency with which various losses can be restored prosthetically is essential.

The establishment and work of the Shriners Amputee Clinic at the Shriners Hospital for Crippled Children, St. Louis, is described. Various problems are described and illustrated.

Drs. Stamp and Morgan and Miss Mahon are from the St. Louis Unit, Shriners Hospital for Crippled Children, and the Orthopedic Division of the Department of Surgery, Washington University School of Medicine, St. Louis.

Evaluation, to determine if reconstructive surgery will benefit by adding utilizable function to the extremity or make for improved functional restoration by external appliance and evaluation to determine the age for such reconstructive procedures, requires mature judgment by the responsible orthopedist. It is extremely important that the anticipated adult prosthetic needs and functional capabilities of the individual be kept in perspective for the proper long range planning that is necessary for these children.

TABLE 1

CHILDREN UNDER ACTIVE TREATMENT

Children	101
Female	45
Male	56
Amputations	128
Upper Extremity	52
Congenital	48
Traumatic	4
Lower Extremity	76
Congenital	57
Traumatic	10
Surgical	9

The prosthetic needs of the juvenile amputee are constantly changing and fitted appliances must be comfortable, functional and adapted to meet the mental and muscular development and coordination of the child. This requires major appliance changes every two to three years. As these changes are made, repeated training periods by the therapist to provide maximum functional efficiency are essential. Brief periods of hospitalization are frequently desirable where a prosthesis in the rough can be checked and used in the training period. Minor changes by the prosthetist, if needed, can easily be made at this stage of fabrication.

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* Chief Surgeon, St. Louis Shriners Hospital for Crippled Children.

In upper extremity amputees we believe the initial prosthesis should be light, comfortable and simple in design. For instance, an above elbow prosthesis consisting of a single wall socket and passive terminal device, such as a mitt, can be fitted as early as 1 year. An elbow joint is not needed (Case 5). In bilateral upper extremity amputees, early fitting of a single prosthesis on the less functional side is a great aid to the early development of two handed activities. The child uses the prosthesis to stabilize objects, utilizing the sensation of the opposite side. The prosthesis should then be changed as prehensile patterns develop. In general a child is 2½ to 3½ years of age before he can activate a simple, light, functional terminal device such as a plastic coated wafer hook. The addition of joints should be made when the patient is old enough to be trained in additional controls.

A change to voluntary closing terminal devices or functional APRL hands can be evaluated after he has mastered the technics of performance and becomes of the age where cosmetic appearance assumes increasing importance. It may be desirable for the individual to use a cosmetic nonfunctional hand for social events during the high school period. The wrist unit should then be so adapted that the hand can be added when this age approaches.

Terminal amputees of the lower extremity may have initial prostheses fitted as soon as standing balance is acquired. These need not include a knee joint. More often in congenital abnormalities one is dealing with an increasing leg length discrepancy and associated deformities. A simple shoe lift will compensate for discrepancies up to three inches. If shortening is severe, a pylon can be added to a shoe with a short leg brace. Usually the conversion procedures should be done by 4 years of age so that the child is fully adjusted to his prosthesis by school age.

Of the 57 children studied with anomalies involving one or both lower extremities, over half have or will require some type of surgical conversion before they can be fitted with a functional and cosmetically acceptable external appliance. Since the growth rate is often retarded in the involved extremity one must make every effort to preserve all epiphyses insuring as much length as possible in a functional stump. Often the ultimate function of the stump is proportional to its length. This may require an ankle disarticulation where there is congenital shortening of the femur and tibia thus making it possible to have a functional below knee stump when adulthood is reached (Case 2). This basic pattern often must be altered when there are associated abnormalities in the extremity, particularly in reference to joint function. If the joint cannot be saved, then it is necessary to do the conversion at a calculated age so that the length of the stump will be functionally and cosmetically acceptable (Case 1).

Surgical conversions are less frequently required in upper extremity amputees although other reconstructive procedures may be necessary during the growth period.

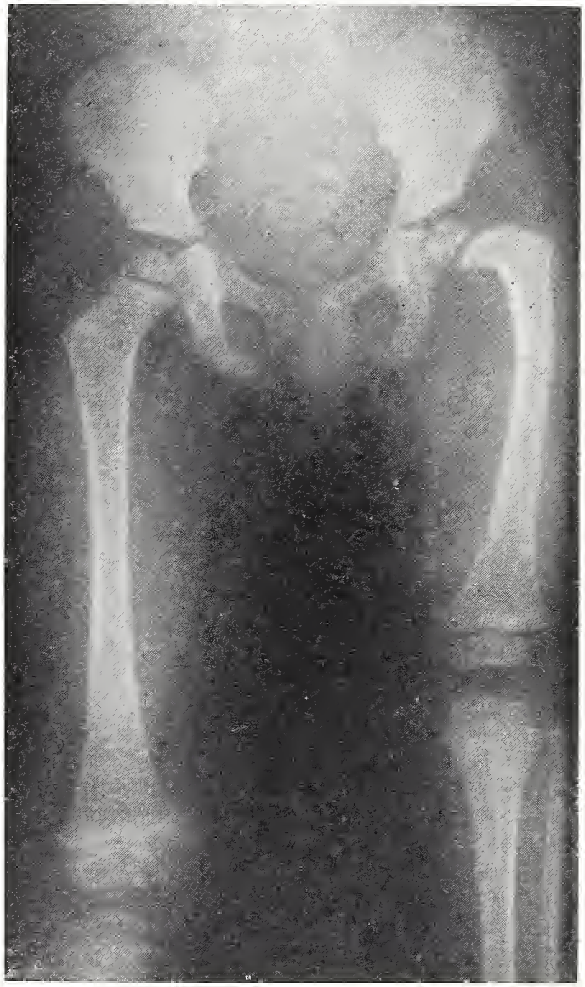

Fig. 1. At 2 years of age there is congenital shortening of the left femur with coxa vara.

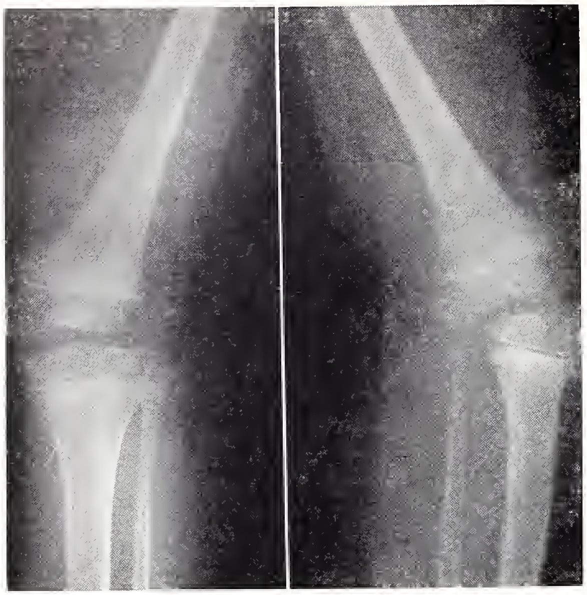

Fig. 2. At 7 years of age, there was dislocation of left knee with instability when bearing weight. The patella is hypoplastic and dislocated.

The common adult problems of amputees as denoted by stump tenderness, neuromata, phantom pain and joint stiffness are rarely seen in the child. However, there are other problems peculiar to the juvenile amputee. For instance, bone overgrowth is especially prone to occur in transhumeral traumatic amputations in the child. This is occasionally seen in the fibula and rarely in the tibia.[1] Skin problems, such as contact dermatitis with changing appliances, tender bursae developing over bone overgrowth, infection in pressure points over poor skin coverage are all seen in the juvenile amputee. We have not seen verrucous hyperplasia in any of our patients wearing suction sockets. These problems may arise suddenly and require prompt attention if the patient is to continue to use his prosthesis.

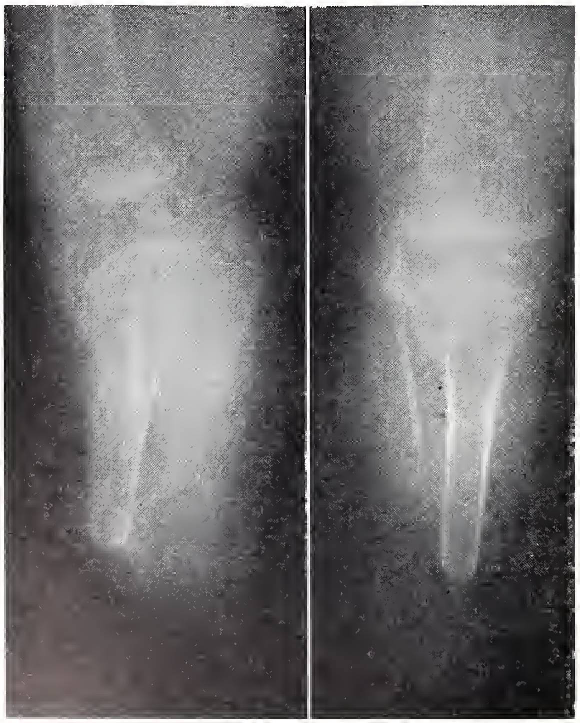

Fig. 3. At 8 years, coxa vara has been corrected and knee is arthrodesed. Leg length discrepancy has been equalized with a pylon lift.

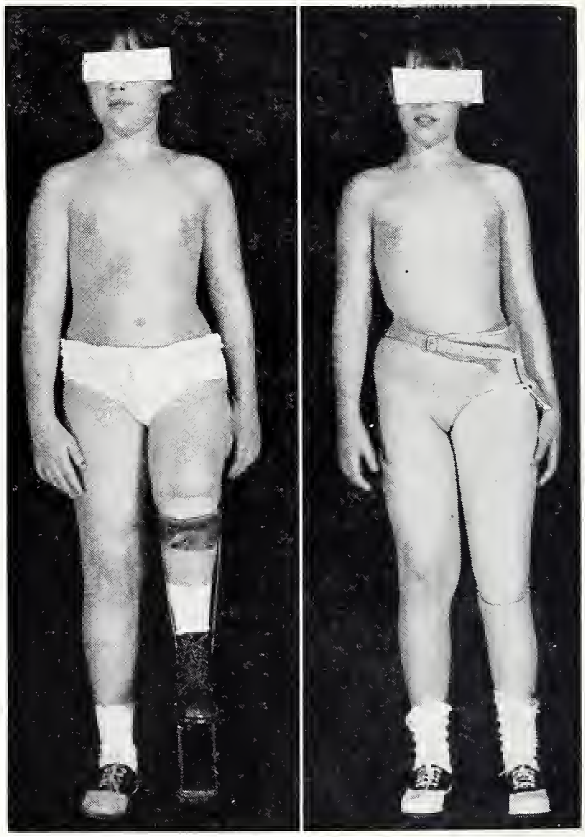

Fig. 4. Left: At 8 years patient has had a below knee amputation of precalculated length to function as a long above knee stump. Right: At 12 years the patient is wearing a total contact AK quadrilateral socket with hip control. Stump is long and does not require a friction knee.

Finally it is important that the prosthesis be accepted by the amputee's parents and siblings. It is essential to inform the parents of long range plans early in the program so that when the child comes of an age to require surgery, this can be anticipated by the parents. This acceptance must extend to the teacher and other children when the amputee starts to school (Case

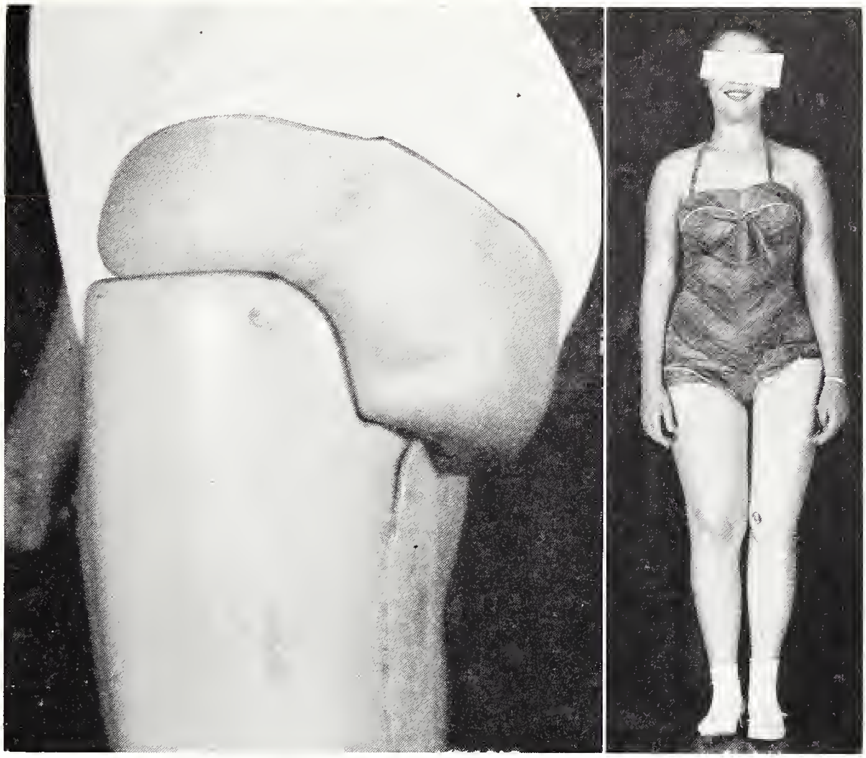

Fig. 5. Left: At 13 years of age the patient was fitted with a suction socket which had to be replaced because of continued growth and muscular development after 18 months. Right: At 15 years, patient is wearing a cosmetically and functionally acceptable prosthesis of the type to be used during adult years. Note equal heights of knees.

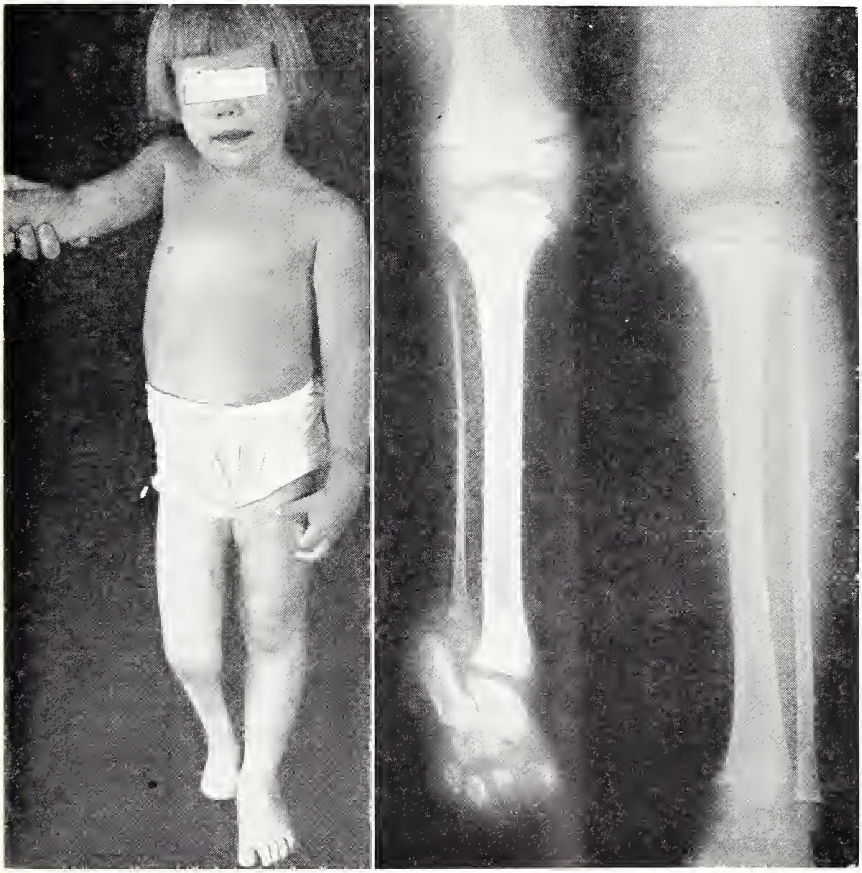

Fig. 6. Left: At 3 years of age note congenital shortening of right tibia and flexion contracture of knee secondary to a band extending from ischium to heel. The foot is small and stiff. Right: Note hypoplasia of right fibula and shortening of tibia. There is absence of toes and intertarsal coalition in foot with equinus deformity.

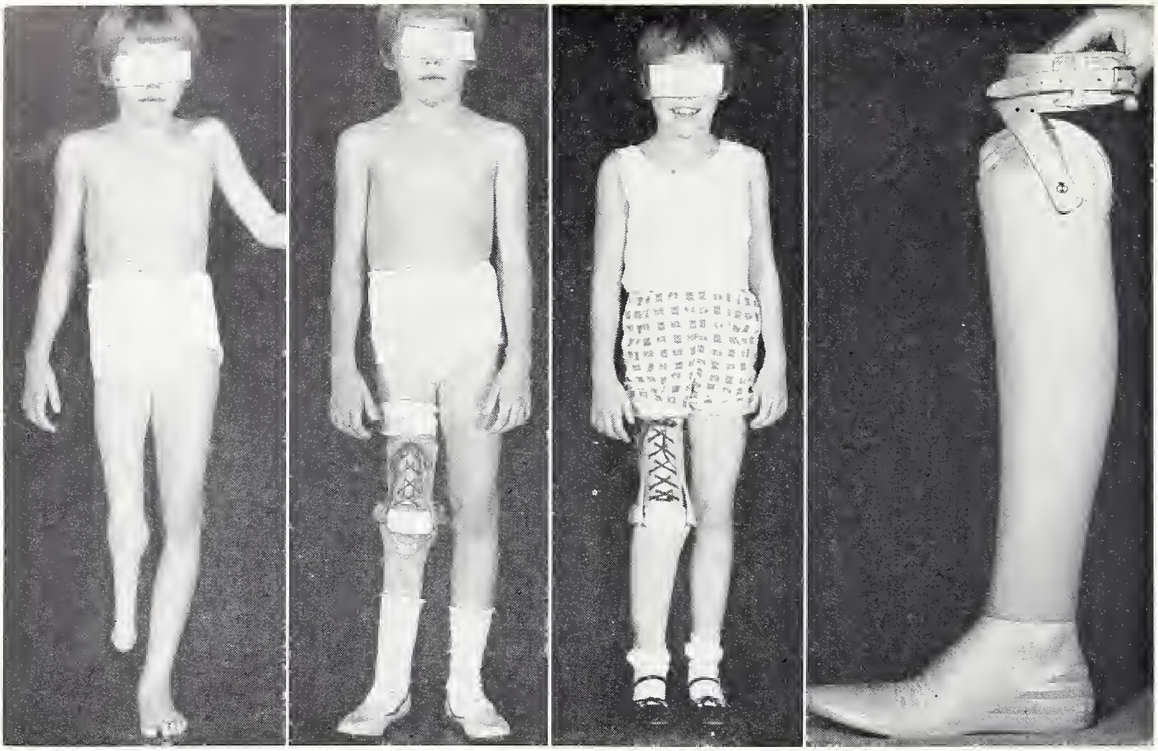

Fig. 7. The band was resected and a Syme's amputation performed to preserve all epiphyses at age 3 years. Patient now has a growing stump suitable for end bearing.

From age 3 to 7½ years, patient has worn this Syme's prosthesis.

At 7½ years, prosthesis was changed to this more acceptable conventional below knee prosthesis.

When patient reaches high school, a final conversion to this cosmetically acceptable patellar tendon bearing prosthesis will be made. This limb can be worn without further alteration of stump.

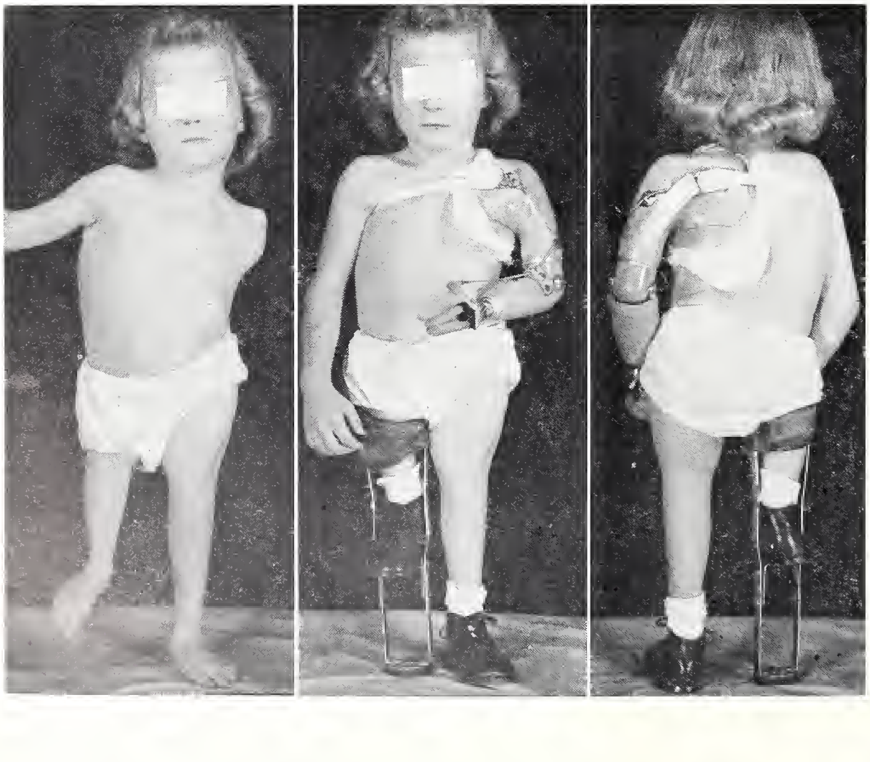

Fig. 8. Left: At 6 years of age this patient has complete absence of right femur with five inches shortening. This discrepancy is diminished by congenital shortening and coxa vara on left. There is amelia left upper extremity with scoliosis. Center: Five inch pylon, right, equalized leg length. Shoulder disarticulation prosthesis on left with wafer hook makes patient independent for dressing and personal care. Note congenital dislocation of head right radius. Right: Wafer hook is activated by chest control so patient can apply own device without assistance. Later harness will be altered to figure-of-eight using right shoulder to activate terminating device and chest strap to activate elbow lock. Note pad under socket to add rotational stability. Next socket will be so altered.

3). When this adjustment is made, special schools for the handicapped are seldom required.

Illustrative Cases

Case 1. (Figs. 1 through 5.) K. D. was first seen at Shriners Hospital in 1949 at 2 years of age with a congenital shortening of the left femur and associated coxa vara, complicated by hypoplastic displaced left patella and dislocating left knee which was unstable on weight bearing. The child was initially fitted with a long leg brace and shoe lifts. As her discrepancy increased a pylon was added. Since a functional knee could not be preserved, an arthrodesis was performed in 1954. This was followed by subtrochanteric osteotomy of the left femur in 1956 to correct the coxa vara. With the knee fused it was desirable in the long range planning for this patient to have a long functional AK stump of maximum length to insure functional competence and not excessively long to prevent uneven heights of the normal and prosthetic knee. In 1958 a precalculated below knee amputation was carried out and the patient was fitted with a total contact quadrilateral socket with hip control. With subsequent growth this prosthesis was then converted to a suction socket at the age of 13. However, with further development a new suction socket was required at the age of 14½ years. It is anticipated that her growth is essentially complete at this stage and further sockets will be needed only for replacement rather than growth correction.

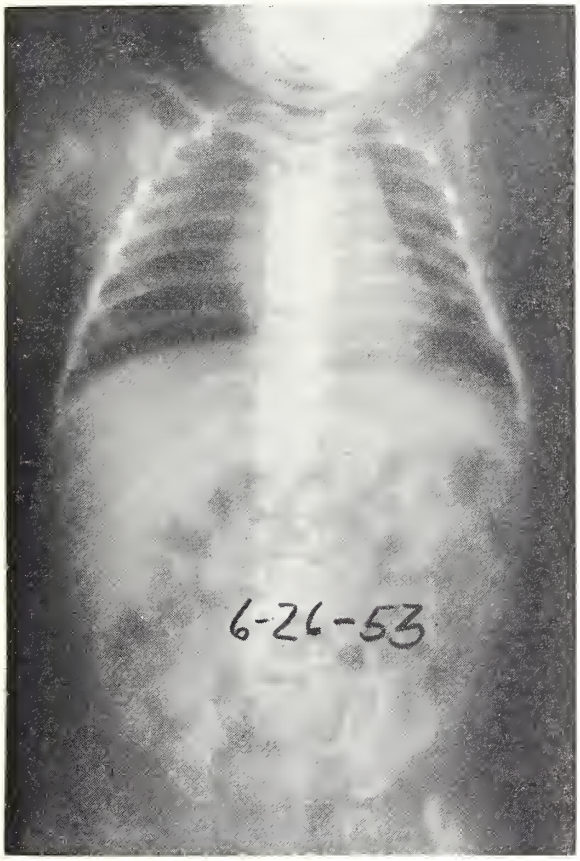

Fig. 9. X-ray shows normal straight spine when 8 months of age. Note early coxa vara on left and absent capital epiphysis. No femur is seen on right.

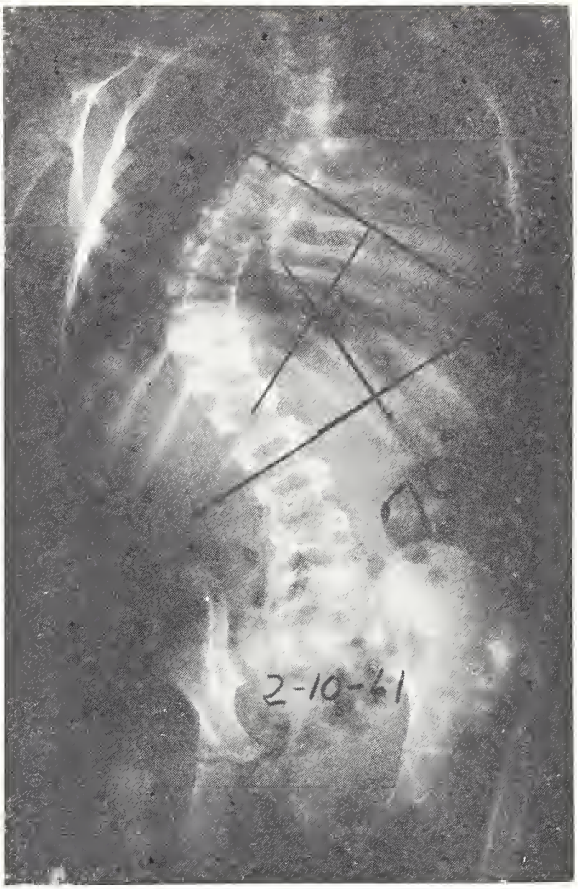

Fig. 10. Standing film at 8 years shows 70 degree thoraco-lumbar curve concave toward amelic side. Note proximal tibial epiphysis near right acetabulum and severe coxa vara with pseudoarthrosis on left.

Case 2. (Figs. 6 and 7.) B. D. was first seen at the Shriners Hospital in 1953 at 4 months of age with a post axial hemimelia of the right leg associated with congenital shortening of the tibia and a congenital band extending from the ischium to the os calcis producing a flexion contracture of the knee. In the long range planning it could be anticipated that the leg length discrepancy would exceed three inches when adulthood is reached. It would be desirable to have this patient fitted with a functional below knee prosthesis. The congenital band was released and the flexion contracture of the knee was corrected. This was followed with a Syme's amputation in 1956. The patient was fitted with a Syme's prosthesis in 1957. At the age of 7 this was converted to a more cosmetically acceptable below knee prosthesis. It is anticipated that following the pre-

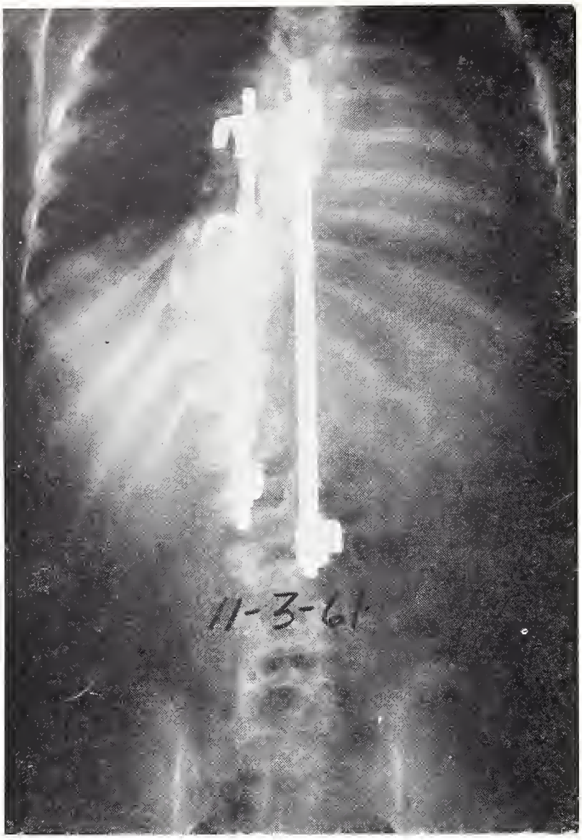

Fig. 11. Standing film taken eight months following Harrington instrumentation shows acceptable correction of scoliosis.

adolescent growth acceleration this patient will be fitted with a patellar tendon bearing prosthesis for adult wear.

Case 3. (Figs. 8 through 11.) B. B. was initially examined at Shriners in 1953 at 4 months of age. The child has an amelia of the left upper extremity, complete absence of the right femur with congenital shortening of the left femur, coxa vara and pseudoarthrosis of the left femoral neck. The child has worn a pylon lift to equalize leg length since 1 year of age. She was fitted with a shoulder disarticulation prosthesis at 3 years of age. An active terminal device was added. With growth and development a progressive right thoraco-lumbar scoliosis developed requiring correction. The lower extremity conversion is yet to be performed. This child, although able to dress independently now, would be unable to apply a thigh laced prosthesis. The patient is currently in the third grade and contact with her teacher revealed the child to be well adjusted and near the top of her class. The prosthetic devices have been well accepted by the patient, teacher and school children.

Case 4. (Fig. 12, page 137.) D. B. was initially seen in 1955 at 2 years of age with a left amelia and a lobster claw hand on the right. The lobster claw deformity has excellent control and grasping power with normal sensation. A prosthesis therefore is not needed. The patient was fitted with a shoulder disarticulation prosthesis on the left. At 3 years of age an active terminal device was added and at 3½ years of age a manually operated elbow lock was added. This patient has developed progressive scoliosis which is currently being corrected. When the scoliosis is corrected the patient will be fitted with a new dual control prosthesis. The terminal device will be activated by the opposite shoulder, the elbow by a chest strap. A No. 5 hook will be added to the next prosthesis rather than the previous plastic coated wafer hook. His prosthesis will be of a length comparable to the short right upper extremity.

Case 5. (Fig. 13, page 137.) D. M. was seen at 18 months of age with an above elbow transverse hemimelia of the right upper extremity. The left upper extremity revealed a transverse hemimelia with a short below elbow stump with rudimentary digits remaining. At 18 months of age the child was fitted with a simple prosthesis to aid in the establishment of a prehensile pattern and the development of two-handed activity. She has normal sensation in the left upper extremity. At approximately 3 years of age functional terminal devices will be added.

Conclusions

1. The organization and management of an amputee clinic devoted exclusively to children are presented.

2. With growth and development prosthetic needs are constantly changing.

3. When planning surgical revisions or conversions, adult prosthetic needs must be carefully considered.

4. Some unique problems of juvenile amputees are presented.

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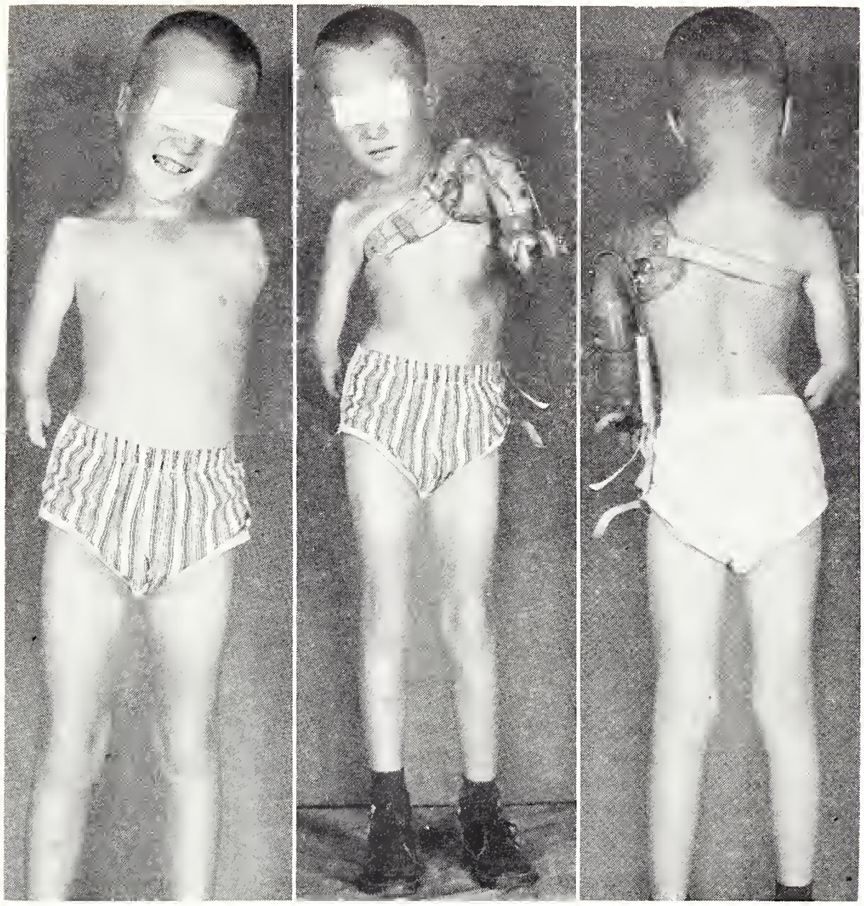

Fig. 12. Left: The patient, now 7 years of age, has a left upper extremity amelia and lobster claw hand on right which has good grasp and normal sensation. Center: This patient is now wearing a shoulder disarticulation prosthesis shortened to match opposite extremity. Note manually operated elbow lock and opening in socket for free end of clavicle used for rotational stability. Right: Rear view shows perineal strap to activate terminal device. With next prosthesis this will be moved to opposite shoulder. Note developing scoliosis convex toward amelic side.

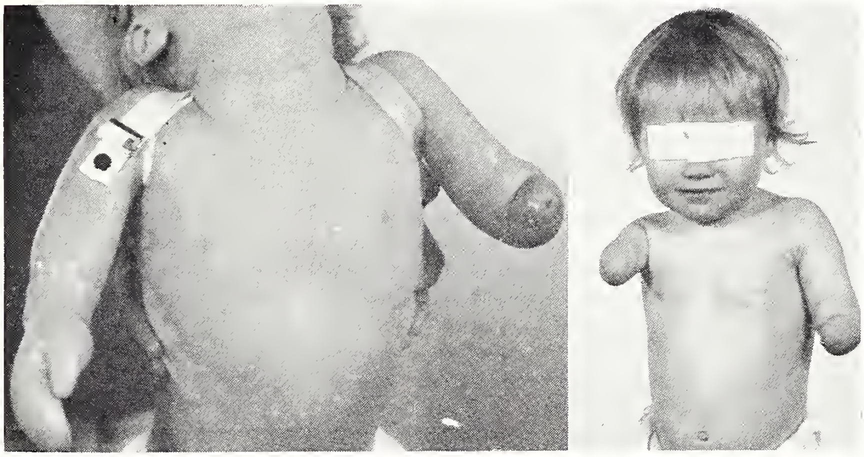

Fig. 13. Left: This child, at 18 months, has bilateral transverse hemimelia; the right is above elbow and the left has approximately a one inch below elbow stump. Right: This child has a light single wall socket with a passive mitt on the short side to aid in the development of two handed activities. The longer stump is left free so that sensation can be used.

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The Time of Ovulation in Women

A Review of Methods That May Be Applied By the Patient Herself

THE IMPORTANCE of determining the time of ovulation arises from the fact that pregnancy is possible for only approximately three days of each menstrual cycle. This is so because the spermatazoa are capable of fertilizing the ovum for only 48 hours, the ovum is capable of being fertilized for only about 24 hours[14] and ovulation ordinarily occurs only once during each cycle. In some women ovulation may not occur during every cycle, giving rise to involuntary infertility.

Of the subjective signs the twinge of pain that occurs in the lower abdomen in about 25 per cent of ovulating women may be the most definite. This mittelschmerz, however, does not occur with sufficient regularity to be a reliable index of the time of ovulation.[9]

Allen, Pratt, Newell and Bland recovered ova from the fallopian tube on the 12th to the 16th day of the cycle at the time of operation, and concluded that ovulation occurs approximately on the 14th day of a 28 day cycle.[2] This and other studies have indicated that ovulation bears a more constant relationship to the next period than to the previous period, occurring about 14 days before the first day of the next period.

Whereas this relationship is statistically the most common one, ovulation can occur at any time during the cycle. It may occur after the menopause, before the climacteric and during the amenorrhea of lactation. In rare instances ovulation may occur twice during the same menstrual cycle.

In spite of these exceptions, however, the time of ovulation can be predicted in most cases by the knowledge of the duration of each menstrual cycle. The duration of a menstrual cycle is the number of days from the start of one period to the start of the next succeeding period. Since ovulation occurs usually 14 days before the next expected period it is necessary to know on the basis of the last eight to 12 periods when the next period is most likely to occur.

A simple method of making such a calculation is to subtract 14 from the longest, and from the shortest period in the last eight to 12 months. The earliest and latest day of ovulation is estimated. Because of the variability in the time of ovulation five days are added to the latest and subtracted from the earliest estimated day of ovulation. The period of greatest fertility is thereby arrived at.

For example: If 24 represents the shortest cycle and 30 represents the longest cycle in the last eight to 12 cycles, by subtracting 14 days from each of these figures the days on which ovulation is most likely to occur is arrived at. Ovulation would be expected to occur in the above example some where between the 10th to the 16th day after the first day of the last menstrual period. By allowing five days on each side of the above estimated days of ovulation the fertile period would extend from the fifth to the 21st day after the first day of the last menstrual period. If there is less variation in length of cycles, the period of greatest fertility can be more closely pinpointed.

It must be remembered, of course, that the regularity of the menstrual cycle, and the regularity of the day of ovulation is influenced by such factors as emotional disturbances, changes in climate and illness. The use of the time of menstruation as to guide to the time of ovulation is practical only in women who menstruate with a certain degree of regularity, and can not be used during periods of amenorrhea such as during lactation or immediately after a pregnancy.

This method of estimating the fertile and in-

Several methods of determining the time of ovulation in women are presented and the technical difficulties involved discussed.

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fertile period in each menstrual cycle is based on the method first described by Ogino and Knaus.[17] The observations of Brewer and Jones at the time of laparotomy would indicate that ovulation may occur from the eighth to the 19th day after the first day of the preceding menstrual period.[6] Indeed it is the common clinical experience of all that pregnancies do occur in patients who abstain from intercourse during the period when ovulation is most likely to occur, thus indicating that ovulation may occasionally occur at any time during the menstrual cycle.

Of the general systemic signs of the ovulation, one of the most important is the shift of the basal body temperature from the low level during the follicular phase to the higher level during the luteal phase. Ovulation is thought to occur just prior to or during the shift in temperature.[23]

In order for basal body temperatures to be meaningful a thermometer calibrated in .1 of a degree must be used. The temperature should be taken when the patient first awakens and while still lying in bed and at approximately the same time each morning. She should have taken nothing by mouth since retiring, and the temperatures should be accurately recorded on a graph.[25] While rectal temperatures would be more desirable, better patient cooperation is received when the less burdensome oral temperature is taken. With either method the thermometer should remain in place five minutes "by the clock."

The temperature drops 24 to 36 hours before the onset of the menses and continues at a low level until the midcycle when there is typically a drop followed by a abrupt rise during the next 24 to 36 hours. This produces the well known square root sign. The plateau continues until the premenstrual drop. Davis states that the temperatures so taken are reliable indices of ovulation in three of four women.[10] Thus in about one fourth of the cases there is no typical curve. D'Amour in a study of 20 cycles of five subjects was of the opinion that body temperature fluctuations were not sufficiently regular or clear cut to be reliable,[9] and Buxton and Engle stated that as a result of comparing basal body temperature charts with findings at the time of operation that the basal temperature may be in error as much as four days in determining the time of ovulation.[8] For the test to be useful these limitations must be clearly understood.[4]

The third method of determining the time of ovulation that can be applied by the patient herself is based on the presence of glucose in the cervical mucus at the time of ovulation.[11, 12, 13] Birnberg, Kurzrok and Laufer state that the glucose present in the cervical mucus may be partly from the aspirated liquor folliculi, but some of it arises from glycolysis within the fundus and cervix.[5] The presence of glucose in the cervical mucus is determined by exposing it for three minutes to "fertility tape." This "fertility tape" contains a double enzyme system of glucose oxidase and a peroxidase. The color change usually occurs one to three days prior to ovulation as determined by simultaneous biopsy of the endometrium and corpus luteum, and it usually persists for one to four days after ovulation. A prolonged or recurrent color reaction suggests a secondary ovulation. The latter has been confirmed at operation.

There are special situations that have to be considered in the use of the glucose method. The test may be unreliable in the diabetic person. During the amenorrhea of lactation the test may be erratic and undependable; however, when the menses become irregular at the menopause the periodic appearance of glucose in the cervical mucus may aid in detecting ovulation. In women who have irregular menstrual cycles or unusually long cycles daily testing may pinpoint the time of ovulation. Glucose present in a douche will also result in a false positive. Immediately before or after menstruation there may be enough glucose in a small amount of blood to give a false positive. Similarly the morning after intercourse a false positive test may occur.

The often unsatisfactory results obtained by the patient with this method may be due to the difficulty of blindly inserting the "fertility testor" into the vagina in the hope of testing the cervical mucus. This is in addition to the fact that an accurate understanding of the physiology upon which the test is based is necessary in order to interpret results.

SUMMARY

1. Ovulation ordinarily occurs 14 days before the next menstrual period, but it may occur with much greater variability.

2. The use of basal body temperatures can usually indicate the approximate time of ovulation. This must be interpreted in light of the many exceptions.

3. Preliminary studies indicate that the presence of glucose in the cervical mucus may be a reliable index of the time of ovulation. In the hands of the patients however there are technical difficulties that may invalidate the test.

4. Whereas none of the above three methods

is an infallible index of ovulation, careful use of the three methods simultaneously offers a fairly reliable index as the time of ovulation.

The Weston Laboratories Inc. are thanked for information regarding the Fertility Testor and Fertility Tape that is used in determining the presence of glucose in the cervical mucus. Also Sister Palma, M.D., and Sister Balaguer, M.D., are thanked for their help in preparing the bibliography.

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SIXTH ANNUAL MISSOURI STATE SURGICAL SOCIETY MEETING IN KANSAS CITY

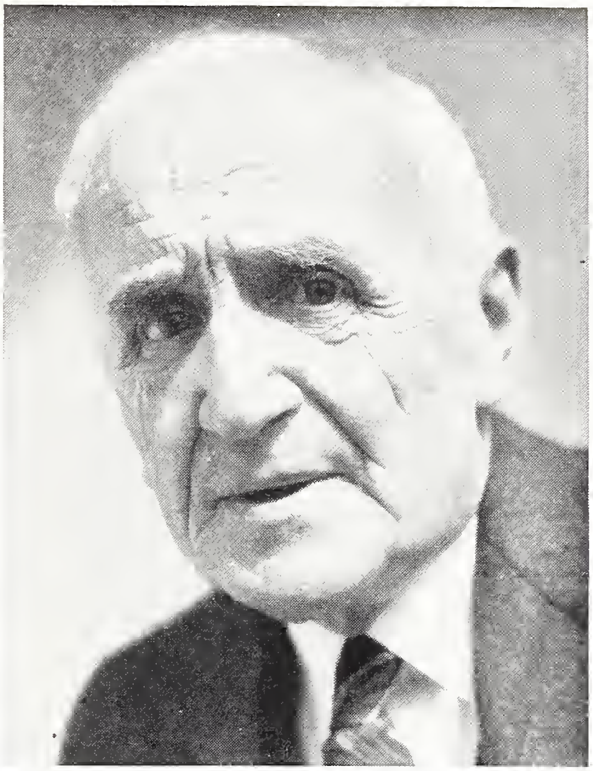
The Missouri State Surgical Society takes pleasure in announcing its Sixth Annual Meeting to be held Monday evening, March 25, 1963.

The distinguished guest will be Frank Glenn, M.D., Surgeon in Chief of the New York Hospital-Cornell Medical Center, whose topic will be "Complications of Biliary Tract Surgery."

The meeting will be held at the Downtown Club, 30th floor, Power and Light Building, 14th and Baltimore Avenues. The entrance will be on the 14th Street side.

Nonmembers of the Missouri State Surgical Society desiring to attend this meeting should make reservations through Dr. John A. Growdon, 1324 Professional Bldg., Kansas City 6, Mo. Because of limited space these reservations must be made prior to March 18, 1963.

Dr. Glenn will also speak before the Missouri State Medical Association scientific assembly at 2:00 p.m., Monday, March 25. His topic will be "The Surgical Treatment of Mitral Stenosis."



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Research in the Service of Medicine

WILLIAM A. LEO, M.D., ***Kansas City***

Acute Gastrojejunocolic Fistula Following Subtotal Gastrectomy for Gastric Ulcer

Case Report

Marginal ulceration following partial gastrectomy or gastrojejunostomy for duodenal ulcer is not rare. It occurs in approximately 5 per cent of all resections for duodenal ulcer.

Kiefer,[9] in 1942, reported an incidence of 6.8 per cent after resection for duodenal ulcer. Tanner[17] stated that stomal ulceration occurred in more than 50 per cent of the cases having gastrojejunostomy for duodenal ulcer and noted that recurrent ulceration did not occur after resection for gastric ulcer. There was an incidence of 2.5 per cent recurrent ulcers in 244 gastric resections for duodenal ulcer.

A case report is presented of gastrojejunocolic fistula and ulceration following resection for gastric ulcer. Gastric hypersecretion is discussed and a plan of management is presented. The addition of vagectomy is suggested in all duodenal and gastric patients having gastric hypersecretion.

Dr. Leo is a member of the Hunt Surgical Group and on the staff of Research Hospital, Kansas City.

Marginal ulceration following gastrectomy for gastric ulcer, however, is rare. Welch[18] has said it almost never occurs. Marshall[12] reported no recurrent ulceration in 411 cases of resection for gastric ulcer.

The purpose of this paper is to report an unusual case of marginal ulceration which occurred immediately following subtotal gastrectomy for gastric ulcer and progressed rapidly to gastrojejunocolic fistula, hemorrhage and death.

Report of a Case

E. A., a 57 year old married white male was first admitted to Research Hospital on October 20, 1961, complaining of intermittent epigastric pain of approximately four years' duration. It had become increasingly severe four months prior to admission and was described as nearly constant, being worse immediately after meals.

Physical examination was essentially normal except for mild epigastric tenderness. Laboratory data: hemoglobin 14.4 grams; white blood count 12,300; polymorphonuclear leukocytes 70; lymphocytes 20; eosinophils 5, and monocytes 4. The fasting blood sugar was 106 mg. per cent and the BUN was 16.5 mg. per cent. Serology was normal. Gastric analysis with histamine stimulation was done with the following results:

Fasting Free HCl—30°—Total acid 50°
15 Minute Free HCl—30°—Total acid 28°
30 Minute Free HCl—28°—Total acid 31°
45 Minute Free HCl—33°—Total acid 48°
60 Minute Free HCl—30°—Total acid 46°

Upper gastrointestinal series showed a large penetrating posterior wall gastric ulcer in the middle third of the stomach.

He was placed on an ulcer regime and followed for four weeks. A repeat gastrointestinal series showed the ulcer to be essentially unchanged and he was advised to have a subtotal gastrectomy.

Second Admission.—He was readmitted to Research Hospital and on December 4, 1961 a Billroth II anti-colic gastrectomy was performed with removal of two thirds of the stomach. The specimen contained a large benign gastric ulcer. The patient did fairly well for several days but had mild abdominal distention and a low grade fever. KUB showed only ileus. He began to have bowel movements on December 10, 1961, the sixth postoperative day, and improved but remained slightly distended and febrile. He became nearly afebrile on his 10th postoperative day and his skin sutures were removed. A complete wound disruption occurred and he was taken to the operating room and the abdomen was closed with wire. No evidence of a duodenal leak or peritonitis was found. He did fairly well for several more days but began to spike fever to 104 F. on December 19, 1961. On December 21, 1961, his 17th postoperative day, his hemoglobin dropped to 10.4 grams and blood was noted coming from the Miller-Abbott tube. Whole blood transfusions were given. A large wound abscess was drained on December 22, 1961, and the purulent drainage appeared to be under pressure.

Chaffin tube suction drainage was instituted and the drainage became foul and bile-stained. He continued to require daily blood transfusions to keep his hemoglobin above 10 to 12 grams and blood was seen coming from the wound catheter at nearly all times. Prothrombin times were within normal limits and no blood dyscrasias were found. It was believed that the bleeding was generalized oozing from the raw granulating intra-peritoneal surfaces and no further surgery was done. He bled profusely on December 31, 1961, and in spite of continued massive transfusions he expired on January 6, 1961, his 33rd postoperative day.

Autopsy showed a large gastrojejunal ulcer approximately 3.5 cm. in diameter in the fistulization into the transverse colon. Two other smaller jejunal ulcerations were also found measuring 1.0 cm. and 1.5 cm. in diameter. The duodenal stump was disrupted and blood was seen coming from the stoma. The pancreas was normal. (See figs. 1 and 2.)

DISCUSSION

As stated previously, marginal ulceration following surgery for gastric ulcer is quite rare.[12, 17] The procedure of choice for gastric ulcer is usually a conservative gastric resection. Frequently only a wedge resection of the ulcer will control the disease. This is done especially in the aged, poor risk patients, or for large ulcers which have perforated or seem difficult to close.

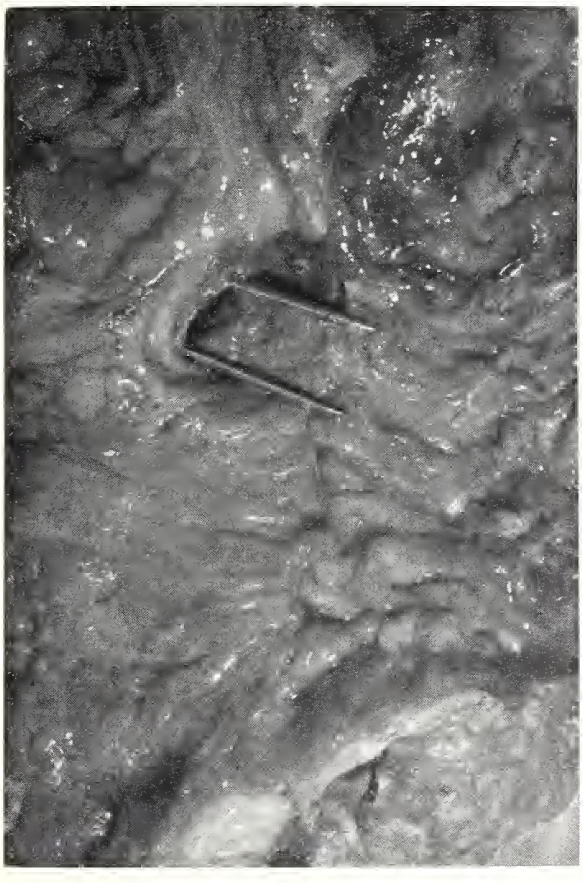

Fig. 1. Autopsy specimen showing large jejunal ulcer perforating into the transverse colon.

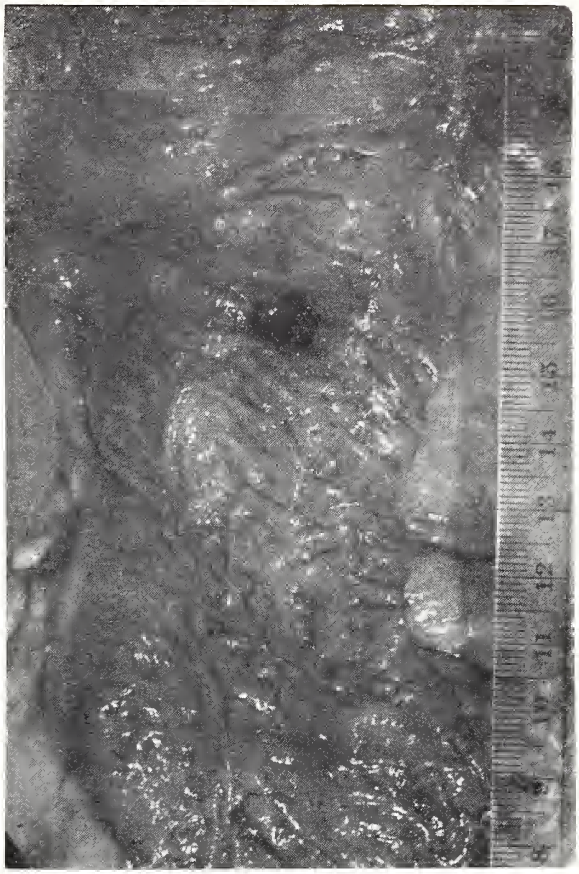

Fig. 2. Autopsy specimen showing fistula into transverse colon from the jejunum.

Marginal ulceration following gastrectomy for duodenal ulcer is not unusual and occurs usually because the resection was not adequate or some hormonal overstimulation was present.[5, 10, 11, 19, 20]

Recently the surgical literature has reported ulceration occurring because of a non-insulin producing islet cell adenoma, the so-called Zollinger-Ellison syndrome.[5, 14, 19] This tumor produces a potent gastric secretagogue which acts like histamine in releasing a marked amount of gastric juice high in acid content. Complete removal of the adenoma and a total gastrectomy is required to effect a cure.

This case was unusual in that neither of the usual conditions prevailed for development of marginal ulceration and it could not be explained why this patient developed such a marked ulcer diathesis. The preoperative acid values did not indicate any marked acidity and a non-insulin producing islet cell adenoma was sought but not found at autopsy. A two thirds gastric resection had been performed which should have been sufficient to control a benign ulcer.

Preoperative acid values are being used increasingly to evaluate the patient's gastric physiology and attempt to cure his ulcer with the fewest undesirable side effects. An excellent method of determining the importance of acidity present is to perform a 12 hour overnight secretion study after the method of Dragstedt.[4] A Levine tube is placed in the stomach after the patient has had a clear liquid lunch and no dinner and the total volume of gastric aspirate is measured from 7:00 p.m. to 7:00 a.m. The free hydrochloric acid is then calculated and multiplied by the volume in liters. The value obtained is the acidity expressed as milliequivalents. Normal values are usually between 10 and 20 milliequivalents. Duodenal ulcer patients usually have around 40 to 60 milliequivalents, but patients having gastric ulcers commonly have below normal acid values, ranging between 5 and 15 milliequivalents. Using this method one can tailor the procedure to fit the patient's need. If these values are low then a conservative resection is indicated. If the values are high the addition of vagectomy should be considered in spite of the location of the ulcer. It is being recognized that the lowest recurrence rate of ulcers following gastrectomy is when vagectomy is added to the procedure. The recurrence rate is usually less than 1 per cent in these cases.[3, 6, 8, 20] Vagectomy will control the important cephalic phase of gastric secretion and the antral phase is controlled by antrectomy.

Gastric ulcer is usually not treated by vagectomy; however, if the 12 hour secretion studies indicate marked acidity the addition of this procedure should be considered. The 12 hour secretion studies in this patient did not indicate the need of vagectomy but in view of the marked ulcer diathesis he showed following gastrectomy this may have been a worthwhile procedure.

SUMMARY

An unusual case of gastrojejunocolic fistula and ulceration following gastric resection for gastric ulcer is presented. The problem of gastric hypersecretion is discussed and a plan of management is presented. The addition of vagectomy is suggested in all duodenal and gastric ulcer patients having gastric hypersecretion.

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FERNANDO TAPIA, M.D., ***Columbia***

Infantile Spasms With Oligophrenia

Report of a Case

Only in the last seven years have physicians become familiar with a tragic but fortunately rare type of infantile epilepsy known by several names: infantile spasms, jack-knifing fits, lightning fits, salaam spasms or Blitz-Nick-und-Salaam-krämpfe. This condition seems to strike around 4 to 8 months of age, and the victim is a baby who had appeared normal until that time. The seizures or spasms are self-limiting, lasting 30 months or so, but in their wake the infant is left severely retarded, or at some subsequent period mental deterioration becomes manifest. Unlike phenylketonuria there are no discernible genetic patterns as yet, and family investigation of cases has not shown any increased incidence of the condition in the families. During the acute phase there are often EEG changes which are known as "hypsarhythmia." These are found in only a little more than half the cases and these patterns tend to disappear after the convulsions have subsided. The EEG findings consist of typical random high-voltage slow waves and spikes appearing in the entire cortex without organized pattern.

A rare type of infantile epilepsy, which has become recognized in the last seven years, is described and a case history is presented.

Dr. Tapia is Associate Professor of Psychiatry (Child Psychiatry), University of Missouri School of Medicine, Columbia.

A description of the cases usually shows a normally developing child who may become irritable or apathetic a few days prior to the first mild minor motor convulsion which precedes the regular major motor seizures. However, fits can be the first abnormality noted. In any case there is a sudden change in social responsiveness and loss of interest in surroundings. Smiling and laughing are replaced by dullness and increasing apathy. Such apathy and unresponsiveness have been known to lead physicians to suspect blindness. The spasms or convulsions have different characteristics, but they include the now classical sudden jack-knifing of the thighs up toward the abdomen and the salaam bowing of the head in a sudden movement forward. Also seen in variable combinations are conjugate deviation of the eyes, twitching and jerks, loss of consciousness, grand mal seizures and staring spells. In most cases there is a high frequency of the characteristic episodes during the day and as many as 40 salaam spasms have been known to occur in one day.

Regular anti-convulsant therapies fail to control the fits even when given in generous doses. By the same token the mental deterioration is unchecked. However, by age 2½-3 years the spasms have usually stopped, leaving a child who is severely retarded. A few reported cases of normal residual mentality exist in the literature. Control of spasms with ACTH, prednisolone, corticotrophin and other allied medicines is reported widely, but it is questionable whether the treatment has any permanent value in preventing the mental deterioration in spite of good results in the control of the spasms. Actually with discontinuation of therapy the spasms usually recur although not infrequently they apparently have ceased altogether. It is the opinion of some authors that mental improvement only occurs if treatment is started within a few weeks of the onset of spasms.

The similarities between this condition and phenylpyruvic oligophrenia have made some investigators suspect that the fundamental etiology is metabolic. Like those children with phenylpyruvic oligophrenia, these children are normal when born and develop retardation during the first year of life. There is progressive deterioration, and by age 3 they have become stabilized at an impaired intellectual level. Seizures are common to both. For this reason several dietary experiments have been tried with cases of infantile spasms but with no success. In pathologic studies of three cases a status spongiosus with a relative lack of glial response was noted. It was felt that this could be explained on the basis of a possible metabolic disturbance. The relationship between DPT immunizations and the onset of convulsions has led some to suspect a causal relationship. Although the issue remains clouded, this suspicion is somewhat allayed by knowledge of patients developing their seizures prior to the date set for their first immunization. Suspicions that the etiology is viral or allergic have not been substantiated at this time.

Further clarifications are in order. In an overall series of infants with spasms and convulsions plus retardation and personality changes, some cases (58 per cent in one series) are symptomatic of specific diagnostic conditions. These conditions include both prenatal and postnatal central nervous system infections, anoxia, trauma and developmental as well as vascular complications. The other cases, such as the one to be discussed, must be considered of a cryptogenic etiology and differ in that they are usually more retarded, do not respond as well to anti-convulsants, and have no abnormal neurologic signs other than those of retardation. "Hypsarhythmia" has been transposed from EEG findings into a clinical entity. This serves to confuse the issue, and it may require the identification of etiologies to clarify the question.

A somewhat detailed description of a case seen by the Child Guidance Clinic of the University of Missouri Medical Center is offered as a clinical example that has many interesting as well as pertinent factors.

CASE REPORT

R. H.: This child was born October 5, 1954, of a spontaneous, normal delivery to a para-3 with an uncomplicated pregnancy. Until 5 months of age the baby appeared quite normal, happy and bright. After two months of "spells during which he doubles up" he was admitted to the University Hospital on June 4, 1955.

The "present complaint" from the old chart is a most revealing statement. Ironically it is an excellent description of what would currently be readily recognizable but at that time represented only careful history taking. "This baby was in good health until about two months ago when he began having spells during which he pulls his head forward—pulls up his knees and strains or grunts—appears in considerable pain—lasting five to 10 minutes. Usually he urinates during such an episode—urine appears normal. There is no cry, but the baby gets red and appears to be in pain. Otherwise he is a fussy baby, restless, moves about constantly which is contrary to the way he was his first 5 to 6 months of life. He was on breast feeding and got no solids till 5 months of age when he was offered some fruit and at 6 months he was given mixed cereal at which time trouble began. There had been no immunizations."

During hospitalization temperature was normal and thorough gastrointestinal investigations were normal. Some quotes from nurses' notes are also interesting. "Child has periodic jerking movements of legs and arms. His eyes bulge some—no cyanosis—no noticeable twitching. Knees bend and come up against abdomen, arms to body. This occurs rapidly, and then after a short period of crying he seems to relax for a moment and the cycle starts over. At onset the child makes gasp-grunt sound. This lasted approximately 10 minutes."

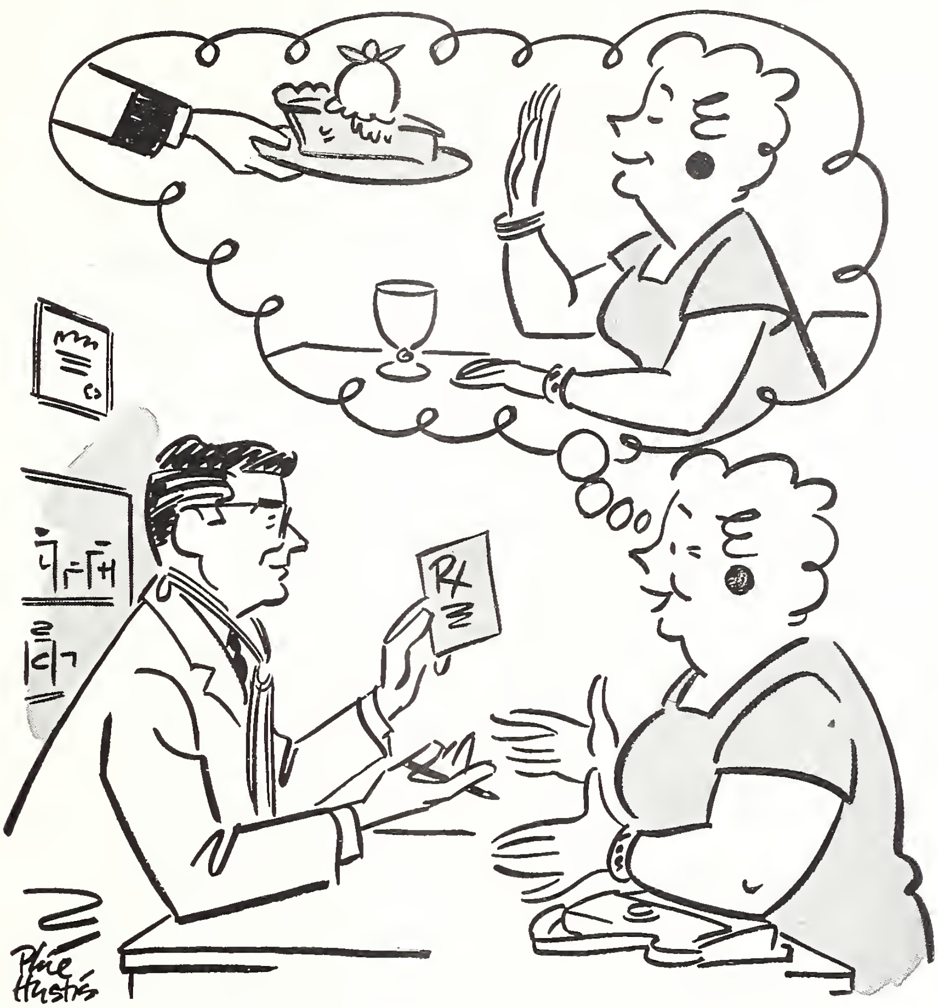
The diagnosis was "food intolerance" and with "diet management" (not specified in chart) he was discharged as improved. However, two weeks later he was taken to the Pediatric Clinic at St. Louis Children's Hospital. Impression was "Colic on nutritional basis. R/O anemia, kidney infection." Unfortunately, return visits were not kept up and the work-up was not completed. Change of diet to SMA seemed to relieve the situation. The mother was emphatic in stating that this change in diet relieved the boy. This occurred at 9 months of age and lasted about six months. During the period of remission the patient resumed the intellectual and emotional development which had been halted with the first seizures; he learned to walk and was saying a few words. A recrudescence occurred at 15 months of age that lasted until age 2½ years, when it spontaneously remitted. However, by that time a total loss of speech was established, which has remained to this date. Also during this time his sudden bending-over was so severe that the parents were constantly concerned with his banging his head at the table and were in fear that he might injure himself should he have, for instance, a fork in his hand during the spell. At this time the parents noted that the patient's urine would turn a deep red color if left exposed to light.

An EEG done at age 23 months was found "borderline for age. Indefinite in relation to complaints." Interestingly enough, this excerpt from the report of the tracings apparently describes hypsarhythmia: "In the latter half of the record patient became drowsy and then appeared some 16 to 18 per second activity and *a few strips of high voltage irregular amplitude 2 to 3 per second activity* which is probably not significant."

At age 6 he was seen again at the University of Missouri Medical Center for a hip complaint of undetermined origin which improved spontaneously. Concomitantly the complaint was made of his complete lack of speech and the evaluation centered around autism, aphasia or oligophrenia. Porphyrins and phenylketones in the urine were negative. Intellectual evaluation by a Vineland Scale indicated a severely retarded level of intellectual functioning. Psychiatric evaluation did not note autism. The patient's hearing was good and he impressed the psychiatrist by humming accurately a well-known church hymn. He was an affable, nice-looking boy who appeared quite normal for his age except for

(Continued on page 151)

...WITH 'METHEDRINE' SHE CAN HAPPILY REFUSE!



Controls food craving, keeps the reducer happy — In obesity, "our drug of choice has been methedrine . . . because it produces the same central effect with about one-half the dose required with plain amphetamine, because the effect is more prolonged, and because undesirable peripheral effects are significantly minimized or entirely absent." Douglas, H. S.: West.J.Surg. 59:238 (May) 1951.

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RICHARD H. KIENE, M.D., ***Kansas City***

A.M.A. Clinical Session

Special Article

Proceedings of the House of Delegates of the session of the American Medical Association held in Los Angeles, November 25 to 28, 1962, are reported. Missouri Delegates were Drs. Durward G. Hall, H. E. Petersen, Arthur W. Neilson and Richard H. Kiene.

The American Medical Association Interim Session convened Monday, November 26, at 10:00 a.m. Missouri delegates present were Drs. Hall, Petersen, Neilson and Kiene. Dr. Hall served as a member of the important reference Committee on Legislation and Public Relations. Alternate delegates Drs. Guy N. Magness, University City, and Rolla B. Wray, Nevada, also attended. Among others from Missouri were President of MSMA, Dr. Donald M. Dowell, Chillicothe; Dr. Stanley S. Peterson, Springfield, president of the Greene County Medical Society, and Dr. Victor B. Buhler, Kansas City, a Past President of MSMA.

Health care for the aged, medical ethics, graduate medical education, expansion of the AMA Board of Trustees and a study of the sections and scientific program of the AMA were among the major subjects acted upon by the House of Delegates at the American Medical Association's Sixteenth Clinical Meeting held November 25 to 28 in Los Angeles.

In keynoting the Association's attitude toward Social Security health care for the aged, Dr. George M. Fister, Ogden, Utah, AMA president, told the opening session of the House:

"We will not compromise on the fundamental principles in which we believe and for which we have fought in the past with courage and good judgment. We will not jeopardize our position either by indicating a willingness to consider a compromise which would damage our basic principles, or by hasty action which might be misinterpreted."

Dr. Fister urged the entire medical profession to understand the basic issues in this struggle so that they can recognize the difference between compromise and surrender.

"The people will respond to the truth," he said, "and it is imperative that we as individuals and as an organization see that they get the truth."

The House reaffirmed, without compromise or change, the Association's present policy of opposition to the King-Anderson type of legislation and support for the Kerr-Mills program. In so doing, it also approved in principle the following suggested amendments to the Kerr-Mills Law:

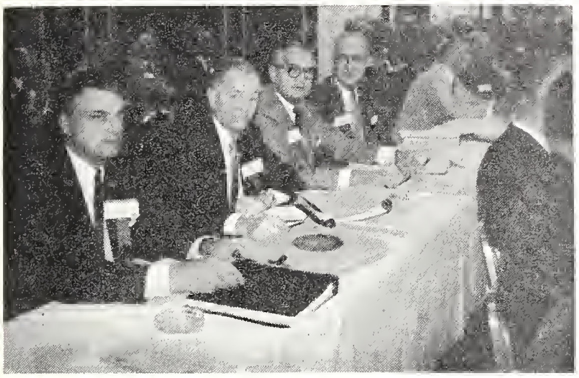
1. Remove the requirement that both Old Age Assistance (OAA) and Medical Assistance for the Aged (MAA) programs be administered by the same agency;
2. Provide flexibility in the administration of the income limitations proposed under state law so that a person who experiences a major illness may qualify for benefits if the expense of that illness, in effect, reduces his money income below the maximum provided;
3. Include a provision in the law requiring state administering agencies to seek expert advice from physicians or medical societies through medical advisory committees; and
4. Provide for "free choice" of hospital and doctor under state programs.

At the same time, the House also endorsed in principle four proposed amendments to the Internal Revenue Code, designed to assist in financing the medical and hospital expenses of the aged. These amendments would: liberalize tax deductions for medical expenses of dependents over age 65; remove the 1 per cent drug limitation and include drugs as medical expenses; permit taxpayers over age 65 to receive full tax benefit for medical expenses by use of the carry-forward and carry-back principle, and provide a tax credit for medical expenses paid by the over age 65 taxpayer, proportionate to the relation between his medical expense and taxable income.

The House also approved a status report which concluded with this statement:

"It is our strong conviction that the legislative situation, the expanding health insurance and prepayment coverage, the improving economic status of the aged, and the many other factors cited in this report require that we face the 1963-1964 Congressional campaign without defeatism or complacency and with pride in the progress that has occurred. Finally, it is, above all, essential that our position not be undermined by the adoption of any policies that compromise our basic principles."

In considering seven so-called "pledge" resolutions, involving professional freedom, the House adopted a substitute resolution urging that all physicians be encouraged to support the position taken by the House of Delegates in June 1961. That policy statement said:



Missouri delegates in the House of Delegates.

"The House of Delegates invites attention to the fact that the medical profession is the only group which can render medical care under any system and that the medical profession is best qualified to determine how the best medical care can be delivered.

"The House of Delegates believes that the medical profession will see to it that every person receives the best available medical care regardless of his ability to pay, and it further believes that the profession will render that care according to the system it believes is in the public interest and that it will not be a willing party to implementing any system which is detrimental to the public welfare."

Medical Ethics

The Judicial Council submitted a report containing new opinions on the medical ethics involved in physician ownership of drug stores, drug repackaging houses and drug companies, dispensing of glasses by ophthalmologists and advertising practices of medical laboratories. The House decided that the questions of physician ownership of drug stores, drug repackaging houses and drug companies, and the dispensing of glasses by ophthalmologists, should not be acted upon at this time. Those opinions were returned to the Judicial Council for further study and report. The House approved the portion of the report relating to advertising practices of medical laboratories and agreed that the propriety of such practices should be determined at the local level in compliance with the new opinion. The House also approved the rules of procedure adopted by the Judicial Council for disciplinary action in cases in which the Association now has original jurisdiction as conferred by the June 1962 change in the Bylaws.

Interns and Residents

A special report on the compensation of interns and residents, which was published in the October 27 issue of *JAMA*, was presented to the House by the Council on Medical Education and Hospitals and the Council on Medical Service. The report was submitted as information only, with a request for further study, comments and suggestions. The House urged that all delegates, hospital staffs and medical societies discuss the report and forward all suggestions to the two Councils in time to influence the form of the report to be presented for action at the June 1963 meeting.

In another action on graduate medical education, the House approved a report on internships and hospital services in which the Council on Medical Education and Hospitals recommended numerous changes in the Essentials of an Approved Internship. The House declared that "their acceptance will further strengthen the educational values of the internship and advance American medicine's contribution to worthy goals of international educational exchange."

The House modified one Council recommendation to read as follows:

"In order to maintain high standards of education and better assure the patients' welfare, at least 25 per cent of the total house staff (interns and residents) of a hospital should be graduates of accredited United States or Canadian medical schools. When United States and Canadian graduates represent a lesser portion of the house staff for two successive years, this will warrant that serious consideration be given to disapproving the internship."

The House instructed the Council on Medical Education and Hospitals to exert every possible effort and influence so that all hospitals with approved house officer training programs accept a reasonable number of foreign medical school graduates.

Board of Trustees

The House, by a vote of 130 to 48, adopted changes in the Constitution and Bylaws which would have implemented the June 1962 recommendations of the Ad Hoc Committee on the Board of Trustees, including expansion of the Board from 11 to 15 members. However, the Judicial Council later informed the House that the affirmative votes necessary to amend the Constitution should have totalled at least 144, or two thirds of the 216 voting delegates registered at the Wednesday session. The House then adopted a motion to vote on the proposed Constitutional amendments, in accord with the changes made in the Bylaws, at the opening session of the June 1963 meeting.

Sections and Scientific Program

A report by the Committee to Study the Scientific Sections, recommending major changes in the organizational structure and scientific program of the Association, was presented to the House by the Board of Trustees. However, because of many requests for delay in approval, the House instructed the Speaker to appoint an Ad Hoc Committee composed of members of the House, and including representatives of the sections, to study the subject and report next June.

National Citizens Committee for WHO

A resolution introduced by Dr. Hall for the Missouri delegation was referred to the Board of Trustees for further study and subsequent report to the House of Delegates. The text of the resolution follows:

> Whereas, There is need for effective worldwide planning, communications and operations in connection with problems of international health, and
>
> Whereas, The World Health Organization has been formed under the United Nations to help fill that need, and
>
> Whereas, The aims and objectives of the World Health Organization in working to eliminate the causes of disease and improve world health merit the support of all nations and all medical and health organizations, and
>
> Whereas, The functioning of WHO can be made substantially more effective through the participation and cooperation of non-governmental organizations and groups with official government delegations, and
>
> Whereas, The avenue for such participation and cooperation already exists through the National Citizens Committee for WHO; therefore be it
>
> *Resolved*, That the American Medical Association participate in the World Health Organization by attendance at, and through membership in, the National Citizens Committee for WHO.

Miscellaneous Actions

In considering a wide variety of resolutions and annual and supplementary reports, the House also:

Instructed the Board of Trustees to use every influence in their command to have the Hill-Burton Law amended in such a manner as to eliminate all categorical grants, eliminate the term "diagnostic and treatment centers" from any listings in the act and prevent federal funds being awarded under existing law as a grant to closed panel medical corporations to build diagnostic and treatment centers.

Declared that it is both the responsibility and duty of the AMA to submit testimony before Congress on the subject of research appropriations in the health field.

Urged state and county medical societies to continue promoting the aggressive, consistent development of Blue Shield senior citizen programs.

Encouraged medical societies and physicians to provide cooperation and leadership in the formulation and operation of regional hospital planning bodies.

Approved Essentials of Acceptable Schools for Inhalation Therapy Technicians, Cytotechnology and Medical Technology and of Approved Residencies in Pediatric Cardiology.

Recommended that a Board report and two resolutions dealing with the "Liberty Amendment" be re-referred to the Council on Legislative Activities for further study.

Warned against the dangerously low level of immunization for smallpox and urged physicians and their patients to maintain the needed protection.

Pointed out that state and county medical societies should collaborate with departments of public health in the interest of community health, always keeping in mind the need for a proper balance between local public health programs and the private practice of medicine.

Authorized the Board of Trustees to investigate the feasibility of establishing a physicians' pension plan and to present a plan for the implementation of such a program to the House in June.

Instructed the Board of Trustees to study the feasibility of regional clinical sessions, taking into consideration the already established regional meetings of medical specialty groups and the Academy of General Practice.

Commended the Council on National Security and its Committee on Disaster Medical Care for initiating a visitation program with committees on emergency medical service of state medical societies.

Expressed appreciation and thanks to the Woman's Auxiliary for their impressive accomplishments in behalf of our free society.

Opening Session

The delegates learned from a report by the American Medical Association Education and Research Foundation that one out of every ten medical students in the U. S. is now benefiting from the new student loan program. Since its inception nine months ago, the program has granted loans totaling more than nine million dollars to 3,042 medical students and 1,787 interns and residents, with applications being received at a rate of 150 per week. It also was announced that Merck Sharp & Dohme pharmaceutical company is making a second matching grant of $100,000 in support of the loan fund. The AMA-ERF also received contributions totaling $440,583 from physicians in five states for financial aid to medical schools.

Registration

Final registration at the meeting reached a total of 10,908, including 5,209 physicians.

INFANTILE SPASMS

(Continued from page 146)

his mutism. Present EEG indicates "diffuse cortical dysfunction of a severe but non-paroxysmal and nonfocal nature."

In the last seven years, physicians have become aware of a syndrome affecting infants characterized by unusual convulsions, often specific EEG changes and subsequent mental retardation. It seems quite evident that the patient described presents a typical picture of infantile spasm with oligophrenia. The history is rather characteristic and the description of the disorder would probably be readily recognized today. The syndrome might be classified under one of many names or, if EEG findings were typical, under the term "hypsarhythmia." With indications in the current literature that the early recognition of this disorder could prove most significant therapeutically, the awareness of this diagnostic possibility might prove helpful. The features in this case of urine that turned red while exposed to sunlight and of a remission coincidental with a dietary change to SMA formula may well serve as clues for future research.

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SOLOMON GARB, M.D., ***Columbia***

Thermonuclear Survival

Civil Defense Against Agents of Chemical and Biological Warfare

THE PROBLEMS of defense against chemical and biological warfare must also be carefully considered in the development of any civil defense plan. Although these two methods of warfare are frequently linked in discussion of possible future wars, it is important to realize that there are crucial differences between the two. The most important difference is that agents of chemical warfare do not renew themselves in the attacked nation. They must be transported in their entirety from the attacker. They must, therefore, be used in enormous quantities to be effective. On the other hand, agents of biological warfare do renew themselves in the attacked country as the disease spreads and becomes epidemic in nature. Therefore, with few exceptions, agents of biological warfare may be delivered in relatively small amounts and yet cause large numbers of casualties. There are some possible exceptions to this rule which will be considered.

CHEMICAL WARFARE AGENTS

Because chemical warfare agents must be delivered completely from the attacker to the attacked nation, there is a basic limitation to their effectiveness. It is true that some of these agents are poisonous in minute quantities. However, the area of a nation is large and even the most potent poison spread over such a large area becomes ineffective. Furthermore, those agents which are most poisonous happen to be those which are most readily dispersed and diluted by winds. To get some idea of the potential effectiveness of a chemical warfare agent, consider one of the most potent nerve gases now known to be available. According to the best estimates, a 10 ton load of such a nerve gas would kill unprotected persons within an area of one square mile. This, of course, might mean millions of casualties in a crowded city. However, if the missile or bomb missed its target by a few miles, the number of casualties might be quite small. By World War II standards, the ability to kill unprotected personnel within a one square mile area may indeed seem most significant. However, by standards of a possible thermonuclear war, the ability to kill people within a one square mile area indicates a weapon of minor effectiveness. By contrast, the same load (10 tons) of hydrogen bombs could kill many more people. Even with the best possible shelters, the area of complete destruction which would be produced by a hydrogen bomb would be in the neighborhood of three square miles and, as pointed out in another article, if there is no civil defense, such a hydrogen bomb could kill over an area of approximately 10,000 square miles. Accordingly, it seems unlikely that an enemy bent on destroying would use much in the way of poison gas when he has the capability of using the much more dangerous hydrogen bomb.

This continues a series of articles on thermonuclear survival. These include material previously published in the *New York State Journal of Medicine,* and are published with permission of that journal.

Dr. Garb is secretary of Medical Education for national Defense at the University of Missouri. He is Associate Professor of Pharmacology, Department of Physiology and Pharmacology, at the University of Missouri School of Medicine.

Reprints of individual articles will not be available but reprints of the entire series will be made available if there is sufficient demand.

Other poison gases which are currently known are even less toxic than the nerve gases and there appears to be little likelihood of their extensive use in a subsequent major war. In table 1 are presented some of the basic details on the chemical warfare agents now known to be available. Even the well publicized hallucinogenic agents which can disrupt normal patterns of reasoning and behavior have a relatively low range of effectiveness in comparison to the same weight of a thermonuclear bomb.

On the other hand, one can never rule out the

TABLE 1
AGENTS OF CHEMICAL WARFARE

Group	*Examples*	*Deadliness*	*Specific Antidote, If Any*	*Other*
Tear Gases	Ethyl bromoacetate Chloroacetone Chloroacetophenone Benzyl Bromide	Practically none		
Choking Gases	Chlorine Methyl sulfuryl chloride Phosgene Diphosgene Chloropicrin	Moderate	none	
Blood Poisons	Hydrogen Cyanide Cyanogen Bromide Cyanogen Chloride	High		Rapidly dispersed and diluted by wind.
Blister Gases	Mustard Gas Lewisite (other arsines)	High	BAL.	Effective against skin; gas masks don't give adequate protection. Persists for long period.
Nerve Gases	Tabun Sarin (G. B.) Aryl Carbamate	High	Atropine Pralidoxime	Absorbed through skin; gas mask inadequate. No warning odor—Anticholinesterase action.
Bacterial Toxins	Tetanus toxin Botulinus toxin	Highest known to science	Antitoxins of limited value, and impractical for wartime use.	Botulinus toxin rapidly destroyed by heating.
Incapacitating Agents	Mescaline LSD 25 Psilocin	Minor	none	

possibility that poison gas will be used, especially since the panic and hysteria which would be generated by its use would probably be considerable. Accordingly, it may be of some interest to describe the type of protection which can be made available against poison gas.

Protection Against Poison Gas.—Poison gas is usually a material which is slightly heavier than air and which, therefore, remains close to the surface of the ground. Because it is in a gaseous form or cloud form, it is rapidly spread and dispersed by wind and, therefore, is usually effective in a particular locality for a limited period of time. Thus, one feature of protection from poison gases is automatic, namely, the diluting effect of winds.

There are two additional methods of protection which may be incorporated into an overall civil defense program if the costs can be kept at a reasonable level. Basically, both methods consist of adaptation of a fallout or blast shelter to protect against poison gases. The first method consists of the use of a special adsorbent to remove from the air any poison gases. In the usual gas masks the adsorbent is charcoal and ordinary activated charcoal is quite effective against most of the World War I war gases. However, activated charcoal is not effective in removing the nerve gases or carbon monoxide or certain other materials. In order to remove the nerve gases from the air coming into a shelter it is necessary to have an adsorbent panel containing activated charcoal which is also impregnated with rare metals. These materials adsorb the nerve gases. Unfortunately, there is not enough information on the total effectiveness of this type of filter; that is, it is not known how much nerve gas will be adsorbed by a given amount of activated impregnated charcoal before the filter loses its effectiveness. This information appears to be classified. It is known that in general most gas masks have a usable life in heavy gas concentration of only a few hours and, therefore, it seems probable that the presently available canisters containing activated impregnated charcoal will have a useful life of only a few hours. In areas where there are fairly high winds, this may suffice.

Furthermore, the cost of the impregnated activated charcoal filter appears to be relatively high at this time. Possibly, there will be some substantial reductions in the future.

A second method of providing protection against the nerve gases is identical to the methods of providing protection against firestorms. That is, the shelter area is sealed from within against the entry of any outside air and a supply of oxygen is released or generated within the shelter and carbon dioxide is absorbed. This type of arrangement is only possible with certain kinds of shelters as described in another article. However, where this type of arrangement can be made, it is economical and practical. Furthermore, the same measure which protects against firestorms also protects against poison gas and, therefore, there is no additional cost involved in the protection against the poison gas. The details and the probable cost of this type of protection are presented in the article on fire and firestorms.

BIOLOGICAL WARFARE AGENTS

Agents which could be used in biological warfare are primarily infectious microorganisms. In a few rare cases, it is possible to use toxins produced by such microorganisms. A case in point would be a botulinus toxin. However, the principles which would apply to the use of a toxin are more appropriate to the chemical warfare problem than to the biological warfare problem. When live microorganisms are used in biological warfare, their effectiveness is based on the fact that they multiply within the attacked nation, producing in the host a large number of infectious organisms.

TABLE 2

SOME POTENTIAL AGENTS OF BIOLOGICAL WARFARE

Fungi	San Joaquin Fever Coccidiomycosis
Protozoa	Amebiasis
Bacteria	Anthrax Brucellosis Tularemia Bubonic Plague Bacillary Dysentery Cholera
Rickettsial	Typhus Rocky Mt. Spotted Fever Q. Fever
Virus	Influenza Encephalitis

These, in turn, are spread to other persons, producing an epidemic. Biological warfare of this sort has been used for centuries. In the middle ages, the bodies of some soldiers who had died of bubonic plague were used to spread this disease in a beseiged city. An epidemic resulted which spread throughout Europe and killed about half of the population. In Colonial America, British officers deliberately spread smallpox among certain Indian tribes through the gift of contaminated blankets from soldiers who had died of the disease. The resulting epidemic virtually wiped out the tribes affected. There now are many defenses against agents of bacteriological warfare, but we still remain vulnerable to an attack with certain microorganisms, and this vulnerability should be understood to protect against them. A single airplane or missile can spread pathogenic organisms over many thousands of square miles of area using aerosol sprays. Some of those organisms are so dangerous that one or two are enough to start an infection.

On the other hand, one must guard against undue exaggeration of the effectiveness of biological warfare agents. There are certain important limitations to their usage, and these limitations should also be clearly understood. First of all, it is unlikely that any major military power such as Russia would employ biological agents in an initial surprise attack on the United States. The reason is a simple one. These agents have a definite incubation period and will not cause disease for several days. During that interval there would be a tremendous risk to the attacking nation that the sneak biological warfare attack would be found out and retaliated with thermonuclear weapons. A biological warfare attack would not neutralize any missiles because they could be fired before the military personnel involved became completely disabled. If a major power such as Russia wished to attack the United States, it would be more logical for them to initiate hostilities by a missile attack using thermonuclear weapons directed at military bases. This would reduce considerably the weight of the subsequent counterattack upon them. By contrast, the use of biological weapons as the initial step would not diminish appreciably the weight of the thermonuclear counterattack and the aggressor would then be hit by the entire striking force, a most formidable weapon.

On the other hand, there is a real possibility that as a secondary step following a thermonuclear attack, an enemy might launch attacks with biological warfare weapons. There is also the possibility that smaller countries might try to launch sneak attacks with weapons of biological warfare, hoping that the origin of the infectious material would not be known. Unfortunately, the weapons of biological warfare can be produced and stockpiled even in relatively small nations.

Defenses Against Weapons of Biological Warfare.—The most potent agency for destroying infectious microorganisms is ordinary sunlight. Fortunately, this reduces considerably the dangers from biological agents, although it does not remove it. The most highly infectious organisms are rapidly destroyed by sunlight. Therefore, the danger from them comes in the early minutes or hours after they have been spread; and also from contact with others who have been infected.

The risk from infectious microorganisms can be reduced considerably by a series of measures.

1. Fallout shelters of certain sorts can be adapted with appropriate filters which will keep out all infectious agents. These shelters and the appropriate filters are discussed and described in earlier papers. They afford protection during the initial stages of an enemy attack with infectious material. They do not, however, provide protection against microorganisms which would be disseminated secondarily from other infected Americans who might come into the shelter or who might be encountered by the shelter occupants.

2. A second important method of protection against infectious microorganisms is the scrupulous maintenance of hygienic conditions. This may be more difficult in a wartime situation than it is in peacetime. However, every effort should be made to observe the best possible hygienic standards. Congregations and crowds should be avoided as much as possible.

3. Basic immunizations should be maintained. This is particularly true of smallpox, since the basic level of immunity of Americans to this disease is probably not enough to prevent a disastrous epidemic if a highly virulent strain were set loose in the nation. It is not generally known that in an American division stationed in Japan at the end of World War II many cases of smallpox developed in soldiers who had been vaccinated but whose level of immunity was inadequate. There was a high mortality rate among those stricken. Furthermore, the maintenance of good levels of immunity to the more common diseases would be most helpful in prevention of secondary epidemics which in some cases might prove worse than the original.

4. The United States government should maintain a well dispersed group of small laboratories equipped to identify pathogenic bacteria quickly. Through the use of the fluorescent antibody technic, a trained technician could identify the type of microorganism dropped or spread in an enemy attack within a matter of minutes. This information would be of the greatest value in planning protective measures.

5. There should be a plan, ready for implementation, to produce vaccines for active immunization of the population to those infectious agents which might be spread in an enemy attack. This would prevent the spread of infection to other areas.

6. The government should stockpile in dispersed areas adequate amounts of a variety of antibiotics which could be used to treat those who become infected. On the other hand, the prophylactic use of such antibiotics should either be avoided or kept to a minimum to prevent the development of antibiotic resistant strains.

7. Special civilian protective masks have been developed. These masks cost between $2 and $3 each to produce. They protect not only against most war gases, but also against agents of bacteriological warfare. The government should proceed with the manufacture of these masks in adequate quantities to provide protection for those Americans who cannot get into Class A shelters with protective facilities against bacterial warfare agents and also for those who must leave their shelters for periods in the post attack situation.

Biological Warfare Agents Directed Against Crops and Farm Animals

Although there have been a number of statements about the possibility that an enemy might use biological or chemical warfare agents against crops and animals, it appears unlikely that such an attack would be directed against the United States. The major reason is that the diversity and vigor of our agriculture is so much greater than that of any potential enemy country. If an attack were launched against our agriculture, with some new agent, an enemy would assume that our scientists would soon be able to copy their material and use it against them too. This country is far less vulnerable than any potential enemy because of the enormous grain surpluses. We could survive a year in which no crops were

(Continued on page 172)

Donald M. Dowell, M.D.

President's Message

Members will have many things to consider during this spring with the Missouri Legislature in session and the United States Congress in session. Also the daily practice of medicine continues.

At the 105th Annual Session of the Missouri State Medical Association many facets will be covered. In the House of Delegates and in the reference committees there will be free discussion of legislative problems facing the profession.

The scientific program for the session is of unusual breadth and scope and planned for the value of the every day practice of medicine.

No member can afford to miss the Annual Session, Hotel Muehlebach, Kansas City, March 24, 25, 26, 27, 1963.

D. M. Dowell, M.D.

EDITORIALS

HEALTH CARE COSTS HIT NEW HIGH

American consumers spent a new high of $21.1 billion for health care in 1961, according to the Social Security Administration.

The Federal Agency reported that the total private outlay for health care, which included $14.4 billion in direct out-of-pocket expenditures and $6.7 billion paid for health insurance, exceeded by $1.3 billion the total spent in 1960.

The 1961 consumer expenditure for health care amounted to $116.60 for each American. Direct expenditures per capita were $79.76 and payments for health insurance amounted to $36.84 per capita.

These sums applied only to private expenditures for health care and did not include government outlays or health care provided through private organizations to the needy.

A breakdown by category of expenditures showed how the consumer's health care dollar in 1961 was divided: hospital care, 27.6 cents; physicians' services, 27.6 cents; drugs, 19 cents; dental care, 19.8 cents; eyeglasses and appliances, 6 cents; nursing and other professional care, 4 cents; nursing-home care, 1.4 cents. The remaining 4.6 cents represented the net cost of health insurance.

Of the total $6.7 billion expenditure for health insurance premiums, 45.4 per cent was paid to Blue Cross-Blue Shield plans, 38.1 per cent to insurance companies for group coverage, 9.4 per cent to insurance companies for individual policies, and 7.1 per cent to independent health insurance plans.

It was estimated that insurance benefits paid 28.3 per cent of the consumer's total 1961 health care bill, exclusive of the cost of insurance. Insurance met 66 per cent of all charges for hospital care, 30 per cent of all charges for physicians' services, and 1.5 per cent of the cost of all other items, including dental care, nursing service, drugs and nursing-home care.

DRUG IDENTIFICATION GUIDE PREPARED BY AMA

An identification guide to more than 5,000 drugs has been published by the American Medical Association.

It is expected to be a valuable tool in a variety of situations, particularly in the treatment of poisoning cases due to drugs in tablet or capsule form.

The guide, appearing in the Dec. 22 *AMA Journal,* was designed as an aid for physicians, pharmacists, hospitals, law enforcement agencies, poison control centers and others involved with drugs.

The 5,000 solid dosage drugs, representing the bulk of the nationally distributed prescription pharmaceuticals, are coded on the basis of physical appearance, such as dosage form (tablet, soft or had gelatine capsule), size, shape, color and markings.

One of the primary reasons behind the development of the guide was the need for quick identification of drugs taken by poisoning victims so that personnel in hospital emergency rooms could treat the patient properly, Joseph B. Jerome, Ph.D., assistant director of the AMA Department of Drugs, said.

In such emergencies when the drug cannot be identified through normal channels, he said, the guide could mean the difference between life and death.

When the characteristics of an unknown drug are matched to those in the guide, the possible identity can be narrowed to one, or at most, a relatively few drugs. After the possibilities are narrowed to a few drugs, a physician would most often be able to draw a conclusion as to its identity from his knowledge and the patient's symptoms.

In non-emergency situations, when time is not a factor, final identification could be established by chemical tests of the remaining alternatives.

The guide is expected to have many diverse uses.

A private physician, for example, could refer to it when confronted by a new patient who has been taking drugs which cannot otherwise be identified or traced.

A coroner might use it as an aid in establishing cause of death.

The guide could help police departments in handling illegal drug traffic and with such commonplace problems as identifying drugs carried by persons found unconscious on the street to determine, for instance, whether the individual is under the influence of alcohol or in a diabetic coma.

News—Personal and Professional

Plaques and commendations were presented by St. Anthony's Hospital and staff, St. Louis, to Drs. **James L. Mudd** and **James C. Pfeiffer**, St. Louis, early in December for their services to the hospital.

Named to a newly-created post of coordinator for medical education at St. Luke's Hospital, St. Louis, effective January 1, was **Robert Paine**, M.D., St. Louis.

"Acute Ischemic Renal Failure and Its Treatment with Specific Drugs" was the subject of a paper presented by **Paul N. Johnstone**, M.D., Kansas City, at a meeting of the Southern Society of Anatomists late in November.

Recently elected president of the medical staff of the Wheatley-Provident Hospital, Kansas City, was **James S. Johnson**, M.D. Other officers elected were **V. L. Dixon**, M.D., vice president; **William H. Bryan**, M.D., secretary, and **A. J. Randolph**, M.D., treasurer.

At a meeting of the 1st district, Missouri State Nurses Association, held in St. Joseph, the speaker was **Gregory L. Pucci**, M.D., Kansas City.

As an observer for the American Academy of General Practice, **W. J. Shaw Sr.**, M.D., Fayette, attended the World Medical Association meeting in New Delhi, India.

Just prior to his retirement on November 30 after 20 years of military service, **Rollin H. Smith**, M.D., West Plains, was given a dinner by members of the Non-Commissioned Officers Club of the National Guard's Co. E. Dr. Smith was presented an oil painting of himself at the dinner.

Speaker at the Central Missouri State College at Independence late in October was **Hector W. Benoit Jr.**, M.D., Kansas City.

A guest lecturer at a course in nasal reconstructive surgery at the College of Medical Evangelists in Los Angeles this fall was **Pat A. Barelli**, M.D., Kansas City.

Beginning January 1, **Forrest C. Long**, M.D., Savannah, began serving as president of the medical staff officers of the Methodist Hospital, St. Joseph. **John N. Martin**, M.D., was elected president-elect; **Henry C. Willumsen**, M.D., vice president. **Warren Baker**, M.D., Savannah, was reelected secretary-treasurer, and **H. E. Petersen**, M.D., and **E. F. Butler**, M.D., St. Joseph, were elected to serve on the executive committee.

New chief of staff of the Boone County Hospital, Columbia, is **James E. Bumgarner**, M.D., Columbia. **Ray B. Lewis**, M.D., was elected vice chief of staff and **James C. Denninghoff**, M.D., secretary.

Speaker at the November meeting of the Western Missouri chapter of the American Physical Therapy Association at St. Mary's Hospital, Kansas City, was **Michael Bernreiter**, M.D., Kansas City.

Governor Dalton has named **Ralph R. Coffey**, M.D., Kansas City, a member of the Sixteenth Judicial Commission, which consists of Jackson County.

Participating in panel discussions at the Western Allergy Society convention in Portland, Ore., in early December were Drs. **Orval R. Withers** and **Cecil M. Kohn**, Kansas City.

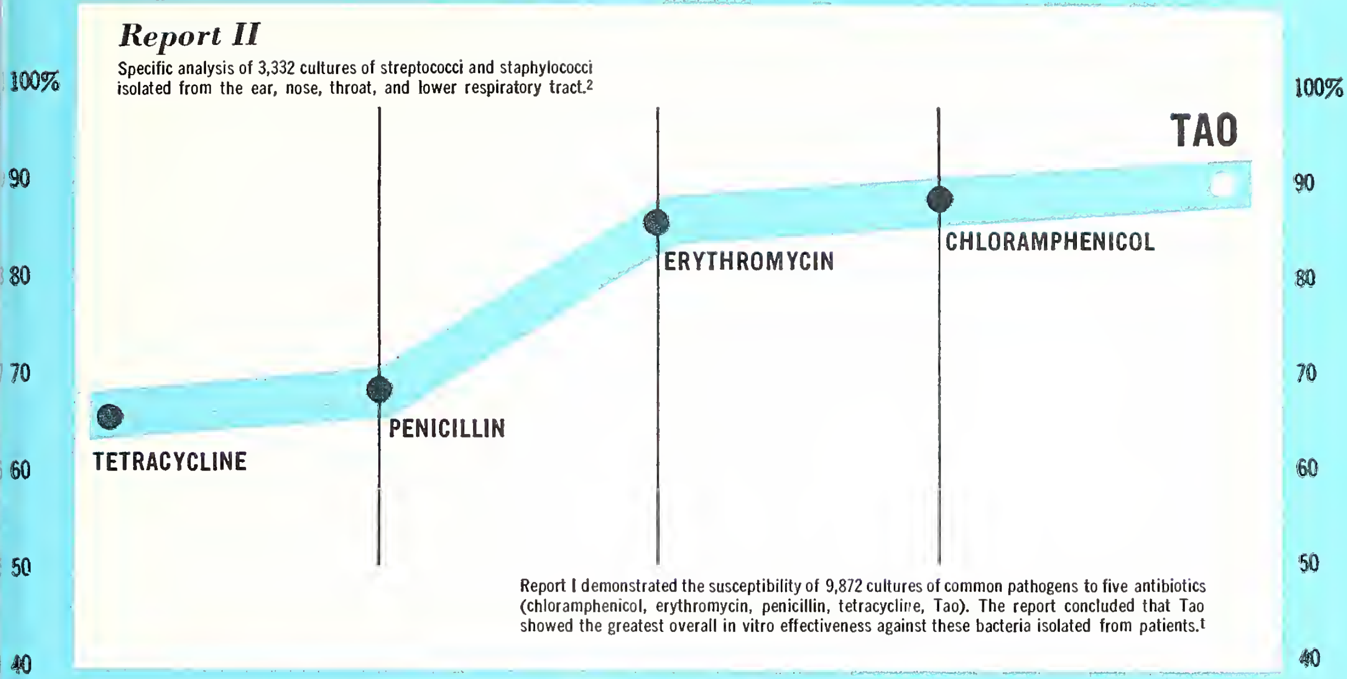
"Modern Trends in the Treatment of Diabetes Mellitus" was the subject of a talk presented by **Ralph S. Casford**, M.D., Kansas City, at a medical society meeting at Coffeyville, Kansas, in November.

The Mission Rotary Club had as speaker on December 12 **Charles B. Wheeler Jr.**, M.D.,

(Continued on page 162)

Report II

Specific analysis of 3,332 cultures of streptococci and staphylococci isolated from the ear, nose, throat, and lower respiratory tract.[2]



Report I demonstrated the susceptibility of 9,872 cultures of common pathogens to five antibiotics (chloramphenicol, erythromycin, penicillin, tetracycline, Tao). The report concluded that Tao showed the greatest overall in vitro effectiveness against these bacteria isolated from patients.[1]

Report II

Results of Bacterial Susceptibility in 3,332 Respiratory Pathogens

References

1. "Bacterial Susceptibility Patterns: A Geographic Survey." Fowler, J. Ralph, M.D., and Watters, John L., M.D. Scientific Exhibit presented at the Annual Meeting of the American Society of Clinical Pathologists, Chicago, Ill., August 31 to September 9, 1962. 2. Fowler, J. Ralph, Watters, John L. and Levy, Arthur M.: Bacterial Susceptibility Patterns as Related to Geographic Variation and Anatomical Source. In press. 3. English, A. R., and Fink, F. C.: Antibiot. & Chemother. 8:420 (Aug.) 1958. 4. English, A. R., and Fink, F. C.: Antibiot. and Chemother. 11:648 (Oct.) 1961.

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Ramblings of the Field Secretary

On Thursday night, December 13, the Grand River Medical Society gave special recognition to one of its important celebrities. The one receiving this honor was none other than President Don Dowell of the MSMA. I came away from that gala affair fully convinced that the membership of the Grand River Medical Society is truly proud of Dr. and Mrs. Dowell. The entire affair was arranged to give every reason for this statement. More than 60 people including doctors, their wives and guests were present to find the spirit of Christmas and honor Dr. and Mrs. Dowell. As a small token of appreciation, the society presented President and Mrs. Dowell a silver bowl.

I am informed that one of the best received programs which has been given at the Annual Public Relations Dinner Meeting of the Chariton-Macon-Monroe-Randolph County Medical Society was presented October 11, 1962, at the Country Club in Moberly. Their speaker was Hans G. Clamann, M.D., Chief of the Bio-Astronautics Department, School of Aerospace Medicine, Brooks Air Force Base, Dallas, Texas. He gave a most interesting discussion on aerospace medicine which seemed to be of much interest to the doctors, their wives and guests totaling some 135 people.

A similar talk was given at the Annual Meeting of the MAGP at the Chase Hotel in St. Louis on Sunday morning, November 4, by Frank B. Voris, Captain, MC, USN, Washington, D. C., Assistant Director, Aerospace Medicine, Office of Manned Space Flight, National Aeronautics and Space Administration. His talk was likewise well received. I have overheard numerous statements from those in attendance at these two meetings requesting more programs of this nature and caliber. It is my understanding that such speakers are not too difficult to obtain if a request is made giving a reasonable period of time before the program appearance.

Dr. and Mrs. Dowell received a silver bowl.

More than 60 people attended.

Certainly, much is being learned as to outer space which promises to have an undetermined impact on medicine.

NEWS—PERSONAL AND PROFESSIONAL

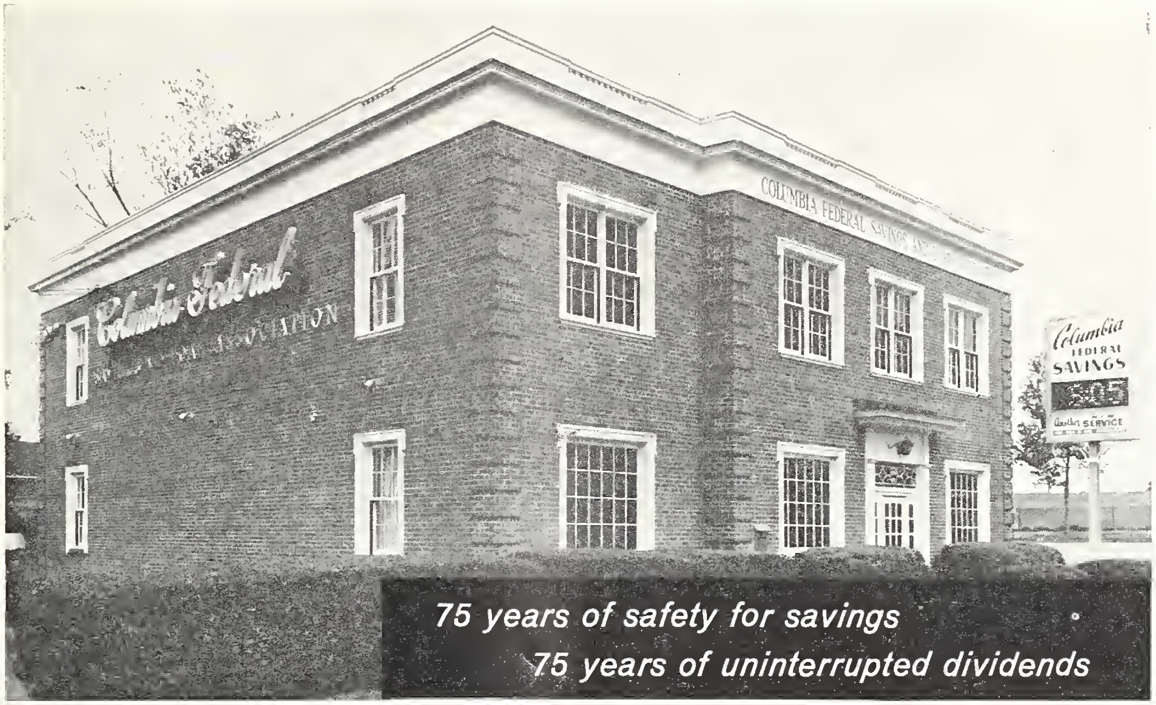
(Continued from page 158)

Kansas City, who spoke on "Medical Care for the Aged."

"The Practical Office Management of Pediatric ENT Problems" will be the subject of a one day program to be presented February 15 at the Baptist Memorial Hospital, Kansas City.

Taking part in a program on "Emphysema" at a meeting of chest physicians in New Delhi, India, on February 20, is **Thomas S. Fleming, M.D.**, Moberly.

A bronze plaque was presented to Mr. C. P. Loranz in October on completion of 50 years of service with the Southern Medical Association. The plaque was presented at a luncheon held in his honor.



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MISSOURI STATE MEDICAL ASSOCIATION

105th Annual Session

Hotel Muehlebach, Kansas City

March 24, 25, 26, 27, 1963

Sunday, March 24, 1963

1:30 p.m. House of Delegates.

3:30 p.m. Reference Committee meetings.

7:00 p.m. Dinner, Sponsored by Woman's Auxiliary. Colonial Room.
AMPAC and the Need for State PACS, Don E. Wood, M.D., Indianapolis, Ind.
Entertainment.

Monday, March 25, 1963

8:00 a.m. Registration. Grand Ball Room.

9:00 a.m. Panel: What's New. Colonial Room.
Moderator: Maxwell G. Berry, M.D., Kansas City.
Anesthesia: C. R. Stephen, M.D., Durham, N. C.
Medicine: Leon O. Jacobson, M.D., Chicago.
X-Ray: Armand E. Brodeur, M.D., St. Louis.
Traumatic Surgery: Richard M. Kilfoyle, M.D., South Weymouth, Mass.

10:30 a.m. Intermission to View Exhibits.

11:00 a.m. Hypothermia, C. R. Stephen, M.D., Durham, N. C.

11:30 a.m. Treatment of Renal Failure, Norman W. Carter, M.D., Dallas, Texas.

12:00 noon. 50 Year Club Luncheon.

12:00 noon. Committee on Maternal Welfare Luncheon. Trianon Room.
Case Reports: Septic Shock.
Discussion: Duncan E. Reid, M.D., Boston.
Sponsored by the Committee on Maternal Welfare and the Kansas City Gynecology Society.

Medical Session.

2:00 p.m. The Kidney in Erythropoiesis, Leon O. Jacobson, M.D., Chicago.
Sponsored by the Missouri Society of Internal Medicine.

2:30 p.m. Clinical Aspects of Renal Disease, Norman W. Carter, M.D., Dallas, Texas.

3:00 p.m. The Kidney in Diabetes, Victor E. Pollak, M.D., Chicago.
Sponsored by the Missouri Diabetes Association.

Surgical Session.

2:00 p.m. Surgical Treatment of Mitral Stenosis, Frank Glenn, M.D., New York.
Sponsored by the Missouri State Surgical Society.

2:30 p.m. Subcutaneous Prostheses, J. Barrett Brown, M.D., St. Louis.

3:00 p.m. The Care of Cervical Spine Fractures, Richard M. Kilfoyle, M.D., South Weymouth, Mass.

3:30 p.m. Intermission to Visit Exhibits.

4:00 p.m. House of Delegates. Colonial Room.

4:45 p.m. Reference Committee meetings.

Tuesday, March 26, 1963

8:00 a.m. Registration. Grand Ball Room.

9:00 a.m. Panel: Newer Laboratory Tests.
Moderator: Eugene F. Tucker, M.D., St. Louis.
Thyroid Function Tests, William H. Beierwaltes, M.D., Ann Arbor, Mich.
Clinical Laboratory Interpretations of Electrophoresis, Paul E. Hermans, M.D., Rochester, Minn.
Clinical Value of Newer Enzyme Tests, Felix Wroblewski, M.D., New York.

9:00 a.m. Panel: Cystic Fibrosis.
Moderator: Peter G. Danis, M.D., St. Louis.
Prevention and Treatment of Nutritional Deficiency and Infections: Antibiotics and Digestive Enzymes, Gunyon M. Harrison, M.D., Houston, Texas.
Anatomic Pathology, Drummond Bowden, M.D., St. Louis.
Pulmonary Physiology: Discussion of Mucolytic Agents, Herman W. Reas, M.D., St. Louis.
Frequency of Occurrence of the Disease and Diagnosis with Emphasis on Pilocarpine Iontophoresis for Sweat Collection, Charles C. Lobeck, M.D., Madison, Wis.

10:30 a.m. Intermission to View Exhibits.

11:00 a.m. New Virology, Frederick C. Robbins, M.D., Cleveland.

12:00 noon. University of Missouri Medical Alumni Association Luncheon. Trianon Room.

2:00 p.m. Autoimmune Disease, William H. Beierwaltes, M.D., Ann Arbor, Mich.

2:30 p.m. The Surgical Aspects of Parkinson's Disease, Claude Bertrand, M.D., Montreal, Quebec, Canada.

3:00 p.m. Intermission to View Exhibits.

3:30 p.m. Panel: Cancer of the Breast.
Moderator: John J. Modlin, M.D., Columbia.
Panelists:
John W. Pickren, M.D., Buffalo, N. Y.
William T. Moss, M.D., Chicago.
Charles Eckert, M.D., Albany, N. Y.
Sponsored by the Missouri Chapter, American Cancer Society.

3:30 p.m. Panel: Heart Disease.
Moderator: James G. Janney, M.D., St. Louis.
The Present Status of External Cardiac Massage, James R. Jude, M.D., Baltimore.
External Electric Countershock, Paul M. Zoll, M.D., Boston, Mass.
Sponsored by the Missouri Heart Association.

7:30 p.m. Annual Banquet in Honor of Past Presidents.
Donald M. Dowell, M.D., Chillicothe, President, Presiding.
Let's Sell Success, Kenneth McFarland, Ph.D., Topeka, Kansas.

Wednesday, March 27, 1963

7:30 a.m. House of Delegates Breakfast Meeting.

9:30 a.m. Intermission to View Exhibits.

10:00 a.m. Medico-Legal Session.

County Society News

FIRST DISTRICT

JOSEPH L. FISHER, ST. JOSEPH, COUNCILOR

Buchanan County Medical Society

The annual election of the Buchanan County Medical Society was held at Hotel Robidoux, December 5, 1962, with the following results: President-elect, Dr. William B. Rost; vice-president, Dr. Herbert C. Senne; secretary, Dr. William Redmond; treasurer, Dr. Robert W. Kieber; censor, Dr. Wilbur P. McDonald; MSMA delegate, Dr. John N. Martin, alternates, Drs. Allen I. Herman and Thompson E. Potter; Dr. Charles R. Willman, committee on public policy; Dr. Robert B. Bristow trustee to 1968; Dr. John R. Forgave, retiring president, was named to the executive secretary committee.

The new officers including Dr. John R. McDaniel, president-elect for the past year will be installed at the annual dinner and installation meeting December 13 at Hotel Robidoux. Dr. John Forgave will preside and be the installing officer.

Herbert C. Senne, M.D., *Secretary*

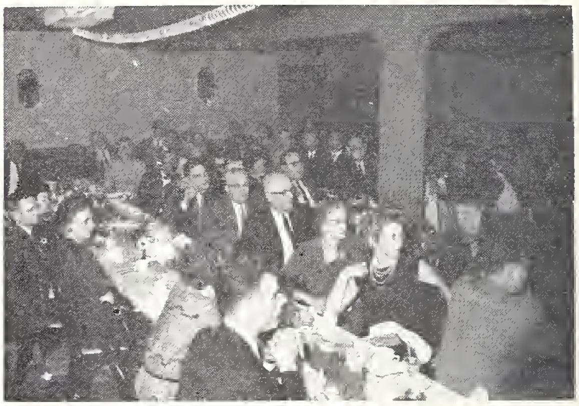
Grand River Medical Society

The long and eagerly awaited moment arrived at 6:30 p.m., December 13, 1962, when the gavel sounded the opening of the annual Christmas meeting of the Grand River Medical Society and its Auxiliary in the Strand Hotel, Chillicothe.

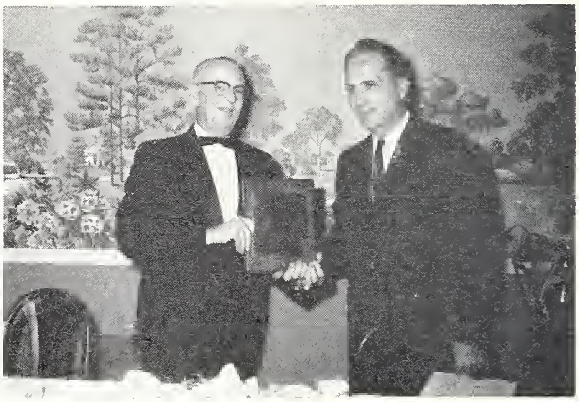
President Dowell gave a Christmas message.

The meeting carried special significance since our own member, Dr. Donald Dowell of Chillicothe as State Association President was to be honored.

Many drug representatives were on hand to give a cordial welcome during the social hour and their cordial was most welcome. As on previous occasions the ladies of the Auxiliary decorated the room with their presence and the tables with Christmas lights and centerpieces. They were also responsible for the program.


It was an interested audience.

During the dinner, door prizes were presented to the lucky winners, Mrs. Robert Smith and Dr. Joseph Conrad. The president-elect, Dr. George Gary, presided at the meeting.


Dr. Dowell presented a plaque to Dr. Bohnsack.

Two excellent readings were presented, one by Mrs. Marty Vandiver of Chillicothe, and the other by her daughter, Miss Sue Vandiver. A brief message by Dr. Dowell, State President, was most interesting and was well received. Dr. Robert Smith of Marceline, who had nominated Dr. Dowell for Missouri State Medical Association President, presented him with a gift in behalf of the Grand River Medical Society and the Auxil-

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1. Ford, R. A., and Blanchard, K. P.: J.-Lancet 78:185, 1958.

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iary. Dr. Dowell presented the Grand River President's Plaque for 1961-62 to Dr. Ralph Bohnsack of Brookfield.

Some of the doctors, with Mrs. James Sweiger at the piano, sang a ballad honoring Dr. Dowell. The audience in true Christmas spirit was quite generous and the performers escaped without injury.

Happy good-nights ended the festive evening.

Mr. Ray McIntyre, Field Secretary of the Missouri State Medical Association, having arrived in time to assist with the decorations and having given his usual inspiring speech added his lusty voice to the singers, making a total of one lusty voice.

The Society voted to make Dr. Lake Brewer of Ridgeway an honorary member. Dr. Brewer has practiced for 54 years.

With Mrs. Bohnsack at the piano, and Dr. Chet Clark directing, the group concluded the program by singing a number of Christmas Carols.

FRANK R. DALEY, M.D., *Secretary*

SECOND DISTRICT

A. P. ROWLETTE, MOBERLY, COUNCILOR

CHARITON-MACON-MONROE-RANDOLPH COUNTY MEDICAL SOCIETY

The regular monthly dinner meeting of the Chariton-Macon-Monroe-Randolph County Medical Society was held Thursday night, December 13, at the Woodland Hospital in Moberly. Ian Thompson, M.D., Professor of Urology at the University of Missouri Medical Center, presented the scientific program. He discussed "The Prevention and Treatment of Kidney Stones." He pointed out that one of the most important items in the prevention of kidney stones was an adequate amount of water intake.

Following the scientific discussion, Dr. C. C. Cohrs and Dr. D. D. Chute discussed the matter of a Randolph County Health Unit and what advantages and benefits could be expected from such a unit.

Physicians attending the meeting were: Drs. Donald Eggleston, Howard Miller, Gretchen Collins, James Campbell and Carl Rinker of Macon County; Dr. F. A. Barnett of Monroe County; Drs. F. L. Harms and Carl Weger of Chariton County; Drs. Avery P. Rowlette, J. Will Fleming Jr., Thomas S. Fleming, Robert H. Young, W. D. Chute, C. C. Cohrs, S. R. Szymanski, L. E. Huber, Robert Hasson and P. V. Dreyer of Randolph County.

J. W. FLEMING JR., M.D., *Secretary*

SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

LAFAYETTE-RAY COUNTY MEDICAL SOCIETY

The November meeting of the Lafayette-Ray County Medical Society was held on November 12, 1962 at Maib's Cafe in Lexington. The social hour was followed by dinner. The program consisted of a discussion of "Survival in Nuclear Warfare" given by George Davault, M.D., following which an informal discussion was held. The members present found the discussion quite interesting and informing.

MEETING OF DECEMBER 10

The December meeting of the Lafayette-Ray County Medical Society was held on December 10, 1962, at the Country Club House, Higginsville. The doctors were guests of the Woman's Auxiliary, who sponsored the meeting and program. After a social hour, the members present enjoyed an excellent meal. The after dinner program consisted of an auction of white elephant gifts. This resulted in much surprise and laughter and proved to be quite entertaining. By far the best buy of the evening was a spray can containing J. F. K. Instant Confusion. The directions on the can indicated that one small squirt promotes instant confusion, makes anyone an expert on all subjects, reveals how one might increase spending, decrease taxes, and balance the budget at the same time, initiate enthusiasm for government sponsored medical care for the aged, as well as many other very interesting features. As

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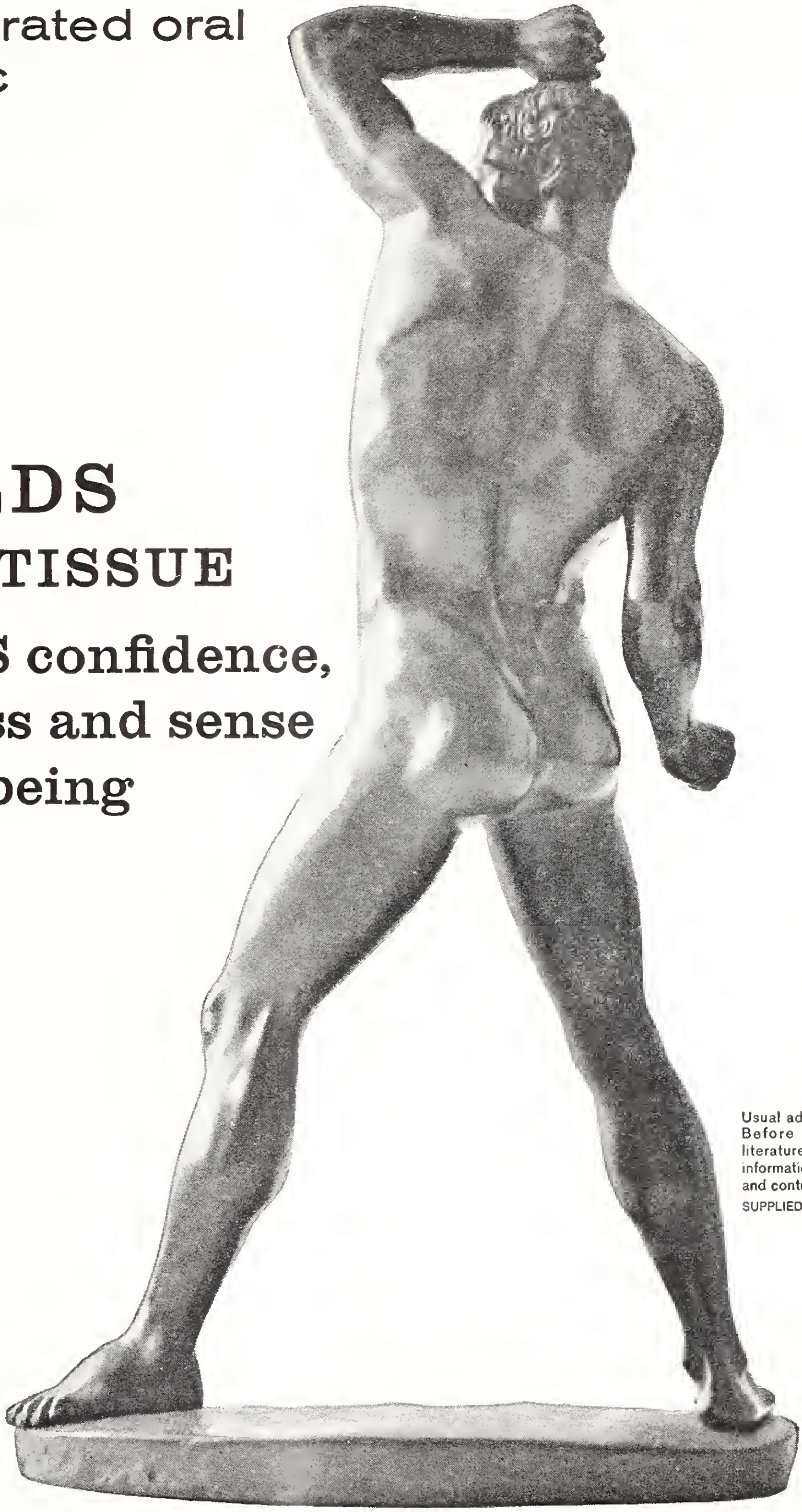

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ith WINSTROL, patients look better... feel stronger—because they are stronger was stated this was considered to be the best buy of the evening by all members present except one. The purpose of this auction was to raise funds for the AMA-ERF. The results were quite successful.

Following this entertainment, the business meeting was held, at which time the election of 1963 officers took place. The results of the elections were as follows: President, W. E. Martin, M.D.; president-elect, Wilbur Fulkerson, M.D.; secretary-treasurer, Wayne Boydston, M.D.; delegates—Ray County, Charles Riley, M.D.; Lafayette County, Catherine Boydston, M.D.; alternate delegates—Ray County, Isadore Goldberg, M.D.; Lafayette County, Wayne Boydston, M.D.

Wayne Boydston, M.D., *Secretary*

West Central Missouri Medical Society

The regular monthly meeting of the West Central Missouri Medical Society was held at Glenn's Cafe on Highway 71 in Butler, Thursday night, December 13. We enjoyed our usual social hour with the doctors and their wives. Following this hour the management served excellent fillets which we enjoyed even more than the delicious snack trays at the social hour.

President-elect, Edward Jones of Harrisonville, presided over the meeting in the absence of President Don Giesler who was unable to make the meeting because of an urgent case which arrived as he was preparing to leave home. We are sorry that Don could not make the last meeting of his year as president. He has been an excellent president, a tireless worker, and has been in attendance at the meetings which is a necessity in filling the position properly.

Dr. Jones opened the formal part of the program with the reading of the minutes of the meeting at Harrisonville in November. There was no new business. Dr. Robert Myers of Kansas City, the speaker, was introduced to the group. Dr. Myers is no stranger to many of us. He was the first president of the Missouri Academy of General Practice. He has been an active physician in Kansas City for many years. He was an ordained Christian Minister before entering medical school and during his medical school education continued to preach at various places. During his years of active practice he has continued to serve churches whenever he could fill an empty pulpit, and has not limited his services to his own church. He spoke on a subject to fit in with the spirit of Christmas, reminding of the many obligations that doctors have and the way in which we should apply some of the rules in our own lives. It was a most enjoyable talk and we deeply appreciated having him come down this busy season and talk to us.

Dr. Rolla Wray, Nevada, alternate delegate from Missouri to the AMA, spoke relative to some of the important problems discussed at the interim session of the AMA. He spoke particularly of the problem of medical service by the doctors in case of a national emergency. He talked some in regard to the Medicare Bill which is sure to come up early in the next session of Congress. He urged all to talk to the young people who do not realize the cost they would have to bear for 30 or 40 years to pay the way for such a socialistic program. They should be the ones to whom to appeal during these coming weeks.

We were happy to have Dr. and Mrs. Ned Gorrell with us as new members of our Society. Dr. Gorrell is moving to Nevada from Jackson County and will handle the x-ray work of the State Hospital, Nevada General, and the Cedar County Hospital at Eldorado Springs.

No further business was presented so we adjourned until our meeting in January at Nevada.

Carter W. Luter, M.D., *Secretary*

NINTH DISTRICT

E. A. STRICKER, ST. JAMES, COUNCILOR

Mid-Missouri County Medical Society

The regular monthly dinner meeting of the Mid-Missouri County Medical Society and the doctors wives was held Thursday night, December 13, at the Greyhound Bus Station in Lebanon. The evening festivities began with a social hour followed by a steak dinner.

The scientific program for the evening was given by Joseph S. Summers Jr., M.D., radiologist, Jefferson City, who presented and discussed a number of interesting x-rays.

This was an enjoyable occasion, and we are grateful to Dr. Summers for an interesting and informative scientific presentation.

M. K. Underwood, M.D., *Secretary*

TENTH DISTRICT

W. D. ENGLISH, CARDWELL, COUNCILOR

Butler-Ripley-Wayne County Medical Society

A dinner meeting of the Butler-Ripley-Wayne County Medical Society and its Woman's Auxiliary was held Friday night, December 7, at

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Westwood Hills Country Club in Poplar Bluff.

The featured speaker for the evening was Congressman Paul C. Jones, Kennett, representing Missouri's 10th District. Mr. Jones discussed matters relating to present and proposed medical legislation in Congress.

John L. Wright, M.D., *Secretary*

Mineral Area County Medical Society

A meeting of the Mineral Area County Medical Society was held Thursday night, December 27, in the Clinic Building of the State Hospital at Farmington.

The program of the evening was presented by John E. Byrne, M.D., of St. Louis, who spoke on "Diagnosis in Pediatric Urology."

In addition to his private practice Dr. Byrne is a member of the Department of Urology of St. Louis University Medical School.

Paul Dennis, *Secretary*

DEATHS

Nichols, Frank J., M.D., Fulton, a graduate of Barnes Medical College, 1905; member of Callaway County Medical Society; aged 89; died November 14, 1962.

Sample, George A., M.D., Chaffee, a graduate of St. Louis University, 1906; member of Semo County Medical Society; aged 76; died November 24, 1962.

Carney, Joseph E., M.D., St. Louis, a graduate of the University of Tennessee, 1932; member of St. Louis Medical Society; aged 57; died November 28, 1962.

Kloeppel, Carl F., M.D., St. Louis, a graduate of St. Louis College of Physicians and Surgeons, 1918; member of St. Louis County Medical Society; aged 77; died November 29, 1962.

Shepherd, Phillip M., M.D., Ava, a graduate of the University of Oklahoma, 1959; member of West Central County Medical Society; aged 34; died December 3, 1962.

VanCleve, John D., M.D., Malden, a graduate of St. Louis University, 1911; member of Dunklin County Medical Society; aged 77; died December 4, 1962.

Paddock, Richard, M.D., St. Louis, a graduate of Washington University, 1921; member of St. Louis County Medical Society; aged 66; died December 4, 1962.

Keim, John P., M.D., St. Louis, a graduate of Washington University, 1910; member of St. Louis Medical Society; aged 75; died December 9, 1962.

Clancy, James F., M.D., St. Louis, a graduate of St. Louis University, 1912; member of St. Louis Medical Society; aged 74; died December 9, 1962.

Martin, Raymond T., M.D., St. Louis, a graduate of St. Louis University, 1939; member of St. Louis Medical Society; aged 48; died December 9, 1962.

Kountz, William B., M.D., St. Louis, a graduate of Washington University, 1926; member of St. Louis Medical Society; aged 64; died December 13, 1962.

Sullivan, B. Hazard, M.D., Lawrence, Kansas, a graduate of St. Louis University, 1904; member of Saline County Medical Society; aged 79; died December 13, 1962.

Funsch, Edwin C., M.D., St. Louis, a graduate of the National University of Arts and Science, 1916; member of St. Louis Medical Society; aged 69; died December 20, 1962.

Kerr, Russell W., M.D., Kansas City, a graduate of the University of Kansas, 1931; member of Jackson County Medical Society; aged 56; died December 20, 1962.

Flanders, Horace F., M.D., Kansas City, a graduate of the University of Kansas, 1933; member of Jackson County Medical Society; aged 56; died December 21, 1962.

Young, Leo P., M.D., St. Louis, a graduate of St. Louis University, 1909; member of St. Louis Medical Society; aged 77; died December 26, 1962.

THERMONUCLEAR SURVIVAL

(Continued from page 155)

harvested. No potential enemy nation could. Accordingly, there appears to be little likelihood of an attack against our agricultural production, and at this time there appears to be no particular need for extensive measures to protect against such an attack. The most vulnerable things in our country are our people, not our agriculture.

The problems of defense against chemical and biological agents have been carefully and extensively examined by the American Chemical Society. This group of experts have published a most informative booklet on the subject and it is recommended that this be read in its entirety.[1]

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[1] American Chemical Society, Nonmilitary Defense: Chemical and Biological Defenses in Perspective, 1960. Available from Special Issue, Sales Dept., American Chemical Society, 1155 Sixteenth St. N. W., Washington 6, D. C.

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The Council

The Council met at Hotel Chase, St. Louis, December 8, 9, 1962, with Leonard T. Furlow, M.D., St. Louis, Chairman, presiding. Those present were Drs. Furlow; A. P. Rowlette, Moberly; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; O. B. Barger, Harrisonville; Hector W. Benoit, Jr., Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Donald M. Dowell, Chillicothe; Kenneth C. Hollweg, Kansas City; John I. Matthews, Jefferson City; Charles R. Doyle, St. Louis; Messrs. Gary L. Schnedler, Springfield; Frank Woolley, Chicago; Jordan Singleton, Gene Lunn, Lemoine Skinner, Edgar Mothershead, Hollister Smith, Tom P. Fox, Ray McIntyre, Tom R. O'Brien and Miss Helen Penn, St. Louis. Attending portions of the meeting were: Drs. George A. Ulett, H. M. Hardwicke, Jefferson City; Carl Siegel, Sedalia; Richard H. Kiene, Kansas City; J. W. Thompson, Joseph V. Finnegan, Curtis H. Lohr, Eugene F. Tucker, T. J. Cooper, William D. Perry, St. Louis; Angelo Lapi, Kansas City; Mr. John A. Hailey, Jefferson City; Dr. James A. Kinder, Cape Girardeau.

EXECUTIVE SECRETARY REPORT

Mr. O'Brien reported on letters to and replies from some of the recently elected legislators.

He reported that the Medicare program would be continued on the same basis as it had been in the past and that a letter of thanks for cooperation from the Medicare office had been received.

He presented a letter from Mr. Barton of the AMA relating to state liaison officers with the office of the Surgeon-General of the Air Force, to be appointed by the State Medical Societies. He said that he had asked for fuller information on this.

EDITORIAL BOARD

On motion of Dr. Hollweg, duly seconded, it was voted that the present Editorial Board be enlarged to include the following new members: Drs. John Berry, John Dolan, Donald J. Mehan, Richard Muckerman and William I. Stryker, St. Louis, and that Councilors make suggestions if they felt there should be changes in the present members of that Board.

FIELD SECRETARY'S REPORT

Mr. McIntyre told of his work with the Missouri Health Council, of which he is chairman this year. He explained that it was made up of 34 state-wide organizations with a fundamental interest in health and four county health councils and that it served as a sounding board and forum on health matters and also presented two full day programs each year. This spring it is planned to have a session on "Medical Quackery" in Jefferson City on May 1, and that Mr. Oliver Field of the AMA would assist with the program.

Mr. McIntyre called attention to doctors who have recently located in Missouri, several of them being graduates of the University of Missouri. He gave a summary of the Missouri State Medical Foundation and said that probably $15,000 would be needed by February 1, to cover loan requests for the second semester.

MISSOURI STATE MEDICAL FOUNDATION

Receipts

Received from MSMA	$75,000.00
Received from Donors prior to March, 1962	3,020.00
Received from Solicitation Letter—July, 1962	1,047.00
Received from Solicitation Letter—November, 1962—(through 12/8/62)	1,590.00
Received from Mid-Missouri Society	50.00
Received Tribute Contributions (3)	100.00
Total	$80,807.00
Total loans to date	74,455.00
Balance on hand 12/8/62	$ 6,352.00

Breakdown

Total number of loans	158
Students receiving more than one loan	52
Students receiving one loan	28
Loans granted to students	80

AMA SESSION

Dr. Kiene gave a brief report on the AMA Interim Session. He said that most items were carried over until the June 1963 meeting. Among things discussed or acted on were the report of AMPAC, that it had been 70 per cent successful; urging that there be no compromise of AMA position on King-Anderson type legislation; the adoption of four amendments to be recommended for the IRS code; approval of minor changes in the Kerr-Mills law; paying of interns and residents was reviewed without action taken, to be reported on further at the June meeting; further discussion to increase the number on the Board of Trustees; medical records discussed but considered a legal problem rather than medical; report of the work of the American Medical Research Foundation; a resolution by Missouri delegates on WHO referred to Board of Trustees. He said that no report was given on the proposed change in the make-up of the Council on Medical Education to have more private practitioners on it, although it had been referred to a reference committee and reported on at the last session and referred to the Board of Trustees. He said that if no report is forthcoming, the Missouri delegates will write asking what action had been taken.

The paying of interns and residents was discussed and it was requested that state medical associations send their ideas on this to the Council on Medical Education and Hospitals of the AMA before the June AMA meeting.

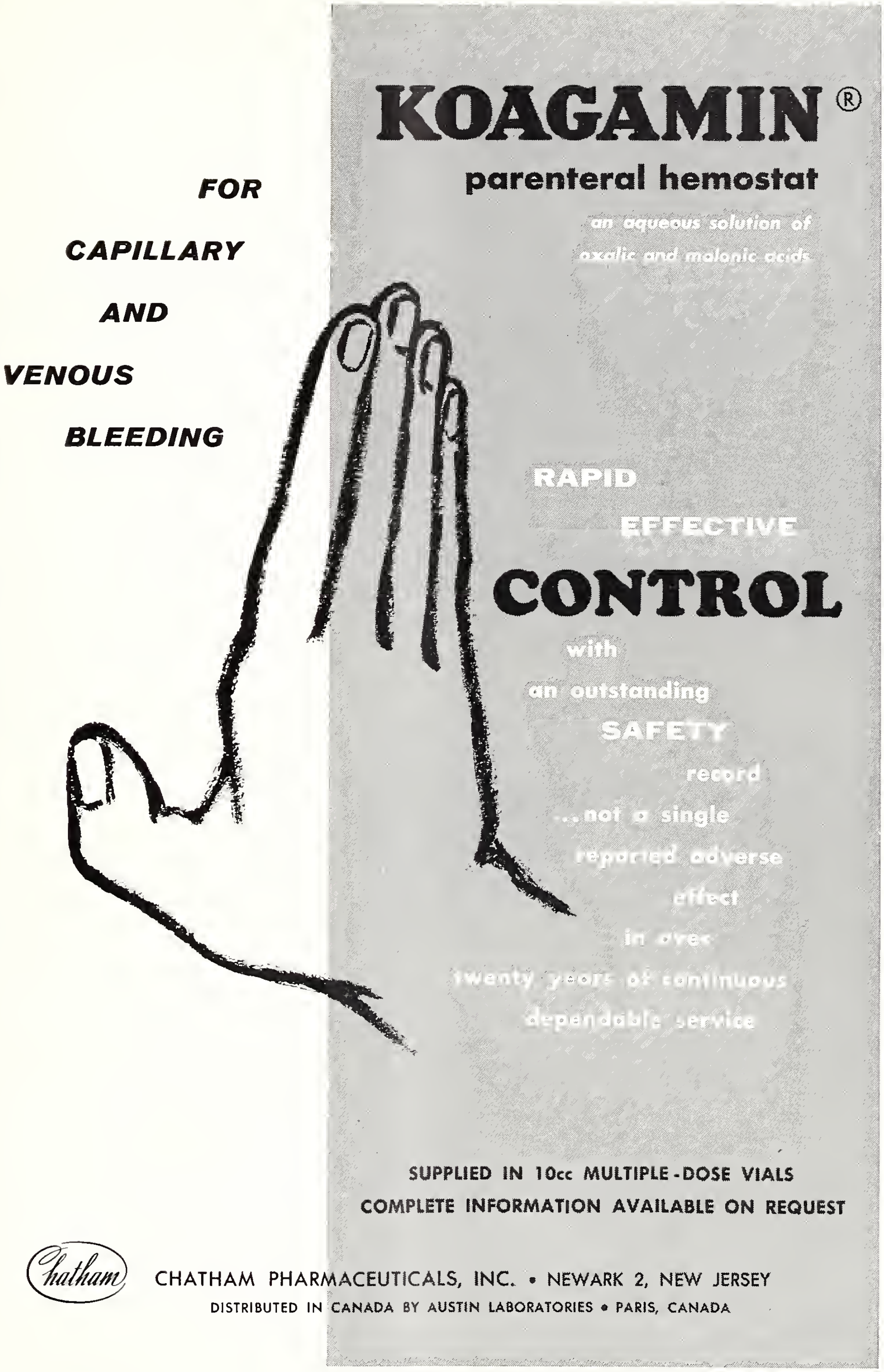
CORPORATE PRACTICE

Dr. Hollweg presented the report of the Committee on Corporate Practice as follows:

The Committee on Corporate Practice met at the Chase Hotel, St. Louis on October 28, 1962, Dr. Hollweg presiding as Chairman.

Minutes.—Minutes of the previous meeting were presented and on motion, duly seconded, approved.

State Board of Registration for the Healing Arts.—Dr.



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William Perry, President, State Board of Registration for the Healing Arts, had been asked to seek an opinion from the Attorney General as to whether or not the Board had sufficient powers, under the terms of S.B. 50, to make rules and regulations pertaining to ethical standards of licensed physicians who might seek to utilize the Corporation approach for medical practice. The Attorney General advised Dr. Perry that the Board did have such powers. However, he suggested several revisions and additions to Section 334.100, RSMo. 1959, one of which deals with a prohibition against advertising, and which, if enacted, would be of great assistance to the Board.

The other additions to the section deal with improvements in language and clarifications of the ethical specifications of licensees. It was agreed that these should be referred directly to the Council for consideration rather than to the Committee on Corporate Practice.

Missouri Bar Association Proposal.—Dr. Bunting presented a copy of an act which is being prepared by a Committee of the Missouri Bar Association for submission to the legislature. In general, it follows the terms of an act adopted in Oklahoma which would create a special type of enabling legislation under which professional persons could organize a corporation. The Committee had considered such a plan at an earlier meeting, including a study of the various acts adopted by 14 other states. It was agreed that Dr. Bunting should thank the chairman of the Bar Association committee for providing us with the information and copy of the proposed act.

Recommendations.—Dr. Williams presented a number of recommendations regarding the position of the Committee on Corporate Practice for submission to the Council of MSMA, as follows:

1. The Committee has studied the various approaches by which physicians may join together as partners, associations or corporations under resolutions pertaining to ethical standards adopted by the House of Delegates of the American Medical Association. Specifically it is stated by such resolutions that it is within the limits of ethical propriety for physicians to join together as partnerships, associations or other lawful groups providing that the ownership and management of the affairs thereof remain in the hands of licensed physicians. The Judicial Council of the AMA has considered such matters and has officially reported on them in the publication, "Opinion and Reports" Judicial Council of the AMA, preamble page 5.

2. The Committee has studied the opinion of the Attorney General of Missouri, No. 8, issued March 15, 1962, and accepts the opinion, which states "Under Missouri law, corporations cannot practice medicine. However, contracting to supply medical services and contracting with licensed medical practitioners to furnish such services does not constitute the practice of medicine under present Missouri court decisions. Therefore, making such contracts constitutes a proper corporate purpose."

3. The Committee has obtained assurances from the Attorney General that the State Board of Registration for the Healing Arts has authority under Chapter 334, RSMo. 1959,

(a) To obtain certified information concerning its licensee in regard to his professional associates in partnerships, associations or corporations.

(b) To determine the ethical relationship of its licensee in his association by application of the Opinions and Reports, Judicial Council, A.M.A.

(c) To determine the ethical relationship of its licensee in his associations by application of the opinions and reports of duly constituted bodies of the Missouri State Medical Association.

(d) To withhold license, to revoke license or withhold registration in the event the licensee has assumed unethical relationship or association as determined by standards of the A.M.A. or the M.S.M.A.

4. The general business incorporation instrument, as a result of the Attorney General's opinion noted above, is available to those who wish to contract to supply medical services and to contract with licensed medical practitioners to furnish such services.

5. The Committee recommends that the Secretary of the State of Missouri should be notified of the opinion of the Association that charters should be granted to interested petitioners for incorporations to contract to supply medical services and to contract with licensed medical practitioners to funish such services.

6. Members of the Association should be made aware of the decisions so that they may avail themselves of the general business incorporation instrument if they so desire. (The membership was to be notified not later than December, 1962, in the event legislation was considered necessary. Since it is not necessary, the report may be sent by mail or published in MISSOURI MEDICINE.)

On motion of Dr. Williams, seconded by Dr. Lund, it was agreed to submit the recommendations to the entire committee (since a quorum was not present), for approval; following approval that the report be submitted to the Council for consideration at its December 8, 9, 1962 meeting.

In discussion it was brought out that the Attorney General had instructed the Secretary of State to issue incorporation papers to those groups of doctors which had applied but that this had not been done as yet. It was suggested that in case of a test case it would be well that those wishing to incorporate be known to each other. Mr. O'Brien said he would attempt to see that such a list be compiled in the office.

On motion of Dr. Hollweg, duly seconded, the report was accepted. Dr. Barger asked the opinion of the Council on a new hospital in his district employing a nurse anesthetist who is paid a salary by the hospital, patient being billed by the hospital. After discussion that showed that this varied in different localities, it was agreed that a legal opinion should be obtained.

COMMITTEE ON TUBERCULOSIS

Mr. O'Brien presented the following report of the combined meeting of the Committee on Tuberculosis, the Trudeau Society, the Tuberculosis Association and the Division of Health.

The Committee on Tuberculosis met November 18, 1962, Missouri Hotel, Jefferson City, Florence E. MacInnis, M.D., Kansas City, Chairman, presiding.

Purpose.—(1) Discussion of the Respiratory Disease Campaign set by the National Association for Spring of 1963, and (2) discussion of an eventual, all out program, for the eradication of tuberculosis.

RD Campaign May 1, 1963.—Brochures prepared by the National Tuberculosis Association were distributed

How to stand a little taller as you watch your money grow

You get more than just money back from an investment in U.S. Savings Bonds. You get a feeling of pride, knowing that you're helping defend freedom.

You see, while your dollars are growing for you, Uncle Sam puts them to work to help freedom grow too. Every dollar you invest in U.S. Savings Bonds helps strengthen our free economy here at home . . . helps our Nation to stand up for freedom everywhere.

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He grows free in a country that grew in freedom. Your savings help defend that freedom when you invest in U.S. Savings Bonds.

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and identified as 1963 RD Campaign Materials. This folder is further identified on the front cover—Cough Too Much? Shortness of Breath? Dr. MacInnis asked Mr. Pratt to report on the plans for this program, including material distribution and publicity. The intention of the program is to encourage early diagnosis among patients under the care of the private practitioner. Public local kickoff and publicity is to begin May 1, 1963 and continue intensively through June 15, 1963. Educational work will continue thereafter. The Educational program is to be financed through the sale of regular Tuberculosis Christmas Seals.

Mimeograph copies were distributed also, to those present, of the Preliminary Suggestions for a Public Relations Program to Supplement National and Local Efforts During the Respiratory Diseases Campaign May 1-June 15, 1963.

The brochure, Exhibit No. 3, was discussed. This is a guide for physicians identified as "Chronic Cough or Shortness of Breath—Differential Diagnosis." It was agreed that Missouri Tuberculosis Association would procure and mail one of these pamphlets to each member of the Missouri State Medical Association, with assistance of M.S.M.A.

It was agreed that involvement and orientation of industrial physicians is important, so that they will not be disturbed regarding industrial hazards. Mr. Pratt reported that the Missouri Tuberculosis Executive Committee had already approved the RD Campaign.

Missouri Tuberculosis Society will seek names of speakers from the State Medical Association, pursuant to arrangement of programs, publicizing the RD Campaign to laymen. Efforts will be made also to publicize the RD Campaign in all state and local medical journals.

Facilities for Pulmonary Function Studies.—Missouri TB distributed copies of a limited list of "Facilities for Pulmonary Function Studies" to committee members present. Following discussion, it was agreed that completion of this list will not be undertaken at this time.

Report From Missouri Division of Health.—Dr. Meinershagen reporting on the new Missouri Recalcitrant Law, stated that to date, six patients were confined by the law and that fifteen patients have been returned for hospital care.

Attention was called to the need for additional funds to provide more facilities and guards for patients, in compliance with the new law.

Certification program was reported, including students, and teaching institution personnel, to date, involving 120,000 adults and children in 32 counties. Case findings, however, indicate a lower incidence of tuberculosis than is found in surveys using the chest x-ray system.

Reference was made also to the costs of the Tine tests using products of the Lederle Laboratory.

Dr. Meinershagen reported that decreasing government funds warranted greater effort to control the use of expensive supplies and drugs.

There was a discussion on varied types of tuberculin tests and on the use of varied types of tests throughout the state without any definite conclusion being drawn, except that the Mantoux Test is considered most acceptable and the Tine Test is now considered acceptable for mass testing in Missouri.

Report of the Kansas City Health Department.—Dr. MacInnis referred to a report released by the Tuberculosis Clinic and Health Department in Kansas City on tuberculosis statistics.

Problems of District Confinement.—Dr. Kerr called attention to the fact that tuberculosis cases for 1961 were greater in number in St. Louis County than those in St. Louis City. It was suggested that action be taken for easier access to Koch Hospital facilities especially for patients in the Eastern part of the State. Such action would greatly reduce the number of patients being sent a far distance to Missouri State Sanatorium at Mount Vernon, which would reduce the number of patients leaving against medical advice. Discussion followed on the subject of differential in the per diem rates pursuant to reimbursement by the state. Dr. Meinershagen stated that he would refer this suggestion to Dr. Hardwicke for consideration.

Psychotic—Tuberculosis Patient Care.—Following discussion, it was agreed that the need is urgent for facilities to hospitalize psychiatric patients who are also victims of tuberculosis. Dr. Meinershagen reported that the Division of Health is already investigating. Again, attention was called to the fact that discharges, against medical advice, would be reduced if such facilities could be provided.

It was suggested that the Committee on Industrial Health may be interested in portions of the report and that it should be made available to them.

Various testing for tuberculosis was discussed and Dr. Hardwicke said the Tine Test was more expensive but that it could be done by a nurse, while the Mantoux Test was less expensive but had to be done by a physician.

On motion of Dr. Hollweg, duly seconded, the report was accepted.

COMMITTEE ON PUBLIC SERVICE

Dr. Stuart presented the following report of the Committee on Public Service, together with the newspaper release on Senator Cason's report.

The Committee on Public Service met at the Chase Hotel in St. Louis on November 1, 1962, Dr. Byron M. Stuart presiding as Chairman.

Formation of Committee.—Dr. Stuart reviewed the action of the House of Delegates which made the Committee on Public Service a permanent standing committee formed from the former Committee on Public Policy and Public Relations, Health and Public Instruction and Public Service in order to concentrate similar functions in a single committee.

Purposes.—Dr. Stuart summarized the purposes of the committee, which has primary responsibility in the area of Communications and public service projects, as:

1. To review the communications activities of the Association for adequacy, effectiveness and prudent expenditure of funds.
2. Through the staff, to assist the Council and other Association Committees in communications with the public, membership, government and other audiences.
3. To recommend to the Council and other committees appropriate activities that might be undertaken to enhance the public relations of the Association.
4. To serve as liaison with component societies to assist with public service and public relations projects, provide for an interchange of ideas and encourage the undertaking of special public service activities.
5. To serve as liaison with the AMA in cooperation

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1. Borota, A., and Grinell, R. N.: J. Amer. Geriatrics Soc., 10:413, 1962.
2. Spoor, H. J.: N. Y. State J. M. 58:3292, 1958.
3. Lubowe, I. I.: Western Med. 1:45, 1960.
4. Weissberg, G.: Clin. Med. 7:1161, 1960.

with national public service and public relations projects.

6. To originate and carry out special public service projects on the state level.

Activities in 1962.—Mr. Skinner reviewed the public activities thus far in 1962 including the following:

1. Annual Session publicity.
2. Preparation of various speeches.
3. Continuing routine publicity program on a variety of subjects.
4. Services to Association committees, county societies and membership.
5. Campaign to obtain additional advertising revenues for Missouri Medicine.
6. Numerous activities in connection with the Missouri State Medical Foundation, particularly in connection with its fund raising program.
7. Assistance to Missouri Medical Political Action Committee.
8. Projects in support of implementation of Kerr-Mills law in Missouri.
9. Extensive activity in opposition to the King-Anderson bill.

Future Activities.—Consideration was given to future activities of the committee, including continuation of established projects, legislative activities during the coming sessions of the Federal Congress and the Missouri legislature, and several potential special projects that might be undertaken by the Association.

Established Projects.—It was agreed that continuation of established activities presently being implemented would be necessary for the foreseeable future. These include such programs as the anti-Social Security medicine campaign, efforts to expand and improve the Kerr-Mills program in Missouri, fund raising efforts for the Missouri State Medical Foundation, continued assistance to MMPAC, continued efforts to increase Missouri Medicine advertising revenues, assistance and publicity in connection with the Annual Session and continuation of the many routine publicity and public relations activities now being carried on.

Legislative Activities.—Mr. O'Brien reviewed the work that will be necessary in connection with legislative activities, mentioning that King-Anderson type of legislation would undoubtedly be introduced again and that the Association would have to again mobilize all of its forces in opposition. He covered a number of matters expected to come up in the Missouri General Assembly beginning in January, including measures to increase the power of the Board of Registration for the Healing Arts in regard to unprofessional conduct and to raise licensure and registration fees. He covered also expected bills dealing with the state mental health program, the Division of Health and the University of Missouri School of Medicine, along with matters dealing with the licensing of physical therapists, Blue Cross and Blue Shield, a Medical Examiners Act and the attempts of fringe practitioners to extend their practice rights.

In connection with the Association's efforts to extend Kerr-Mills implementation in Missouri, Mr. O'Brien gave committee members copies of the report of the Interim Committee of the Legislature studying the health care needs of the aged. He said that he had personally attended all of the committee hearings and that the committee had heard testimony from Association representatives and had been responsive to the opinions of medicine.

Mr. O'Brien explained that the committee recomendations enlarge the Kerr-Mills program now in effect in Missouri, and that Senator William Cason, chairman of the interim study committee, had expressed the hope that the recommendations would be embodied in bills which would become Senate Bill No. 1 and House Bill No. 1 in the coming legislative session.

On motion of Dr. Hollweg, seconded by Dr. Brodeun, it was voted that the committee approve release of a statement by the President of the Association, Dr. Dowell, commending the work of the Interim Committee.

Potential Projects.—A number of projects that might be undertaken by the Association were discussed. The committee made recommendation that a survey be undertaken to determine current activities of the county medical societies in the public service and public relations areas and that health career recruiting be stimulated by letters to county societies and schools advising them of the wealth of recruitment materials available through the American Medical Association.

It was also recommended that a legislative newsletter be published for Association members at intervals during the next session of the state legislature and that full cooperation be given to the Missouri Health Council Conference on Quackery in Jefferson City next Spring. In discussion of the Directory of Health Resources project, it was reported that with about one-half of the state surveyed, the Woman's Auxiliary had gone as far as it possibly could with the program. The work and expense of completing the survey and publishing and distributing the directory was thoroughly reviewed. In view of the very substantial expense involved and the Association's present financial situation, it was decided that the material so well compiled by the Auxiliary should be catalogued and maintained in the Association office and used to research referral resources on request by member physicians and county medical societies. In this way, the information will serve the purpose originally planned as a valuable reference source for physicians without the considerable cost of publication in booklet form.

Other projects considered were programs to develop closer relationships between medicine and the teaching profession, to provide assistance to county societies wishing to put on Sabin vaccination drives and to provide assistance in Civil Defense "self-help" medical training programs. Action on these suggestions was deferred for the time being, but the committee emphasized that its services and assistance would be available at any time to county medical societies in connection with local public relations and public service projects.

Dr. Furlow said that he had received a request from the St. Louis Medical Society for help in supporting their radio and TV work, and this was referred to the Committee on Public Service.

On motion of Dr. Dowell, duly seconded, the report was accepted.

AMERICAN ASSOCIATION OF MEDICAL COLLEGES

Dr. Dowell reported that he will attend a meeting of the American Association of Medical Colleges to be held in Denver at which time some pertinent problems of medical schools will be discussed, and requested any suggestions along this line.

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LEGISLATION

Mr. O'Brien called attention to the report of Senator Cason for the committee studying Kerr-Mills type of legislation. He said that Senator Cason hoped that most of the legislation could be encompassed in one bill, with others to make necessary changes in present laws—that Senator Cason hoped bills would be introduced as S.B. 1 and H.B. 1. He said that apparently the Governor will support the bill.

Mr. O'Brien pointed out that there are several bills which will require appropriations in which the Association is interested, such as the Division of Health, University of Missouri and the Division of Mental Diseases.

Mr. O'Brien said that the medical legal examiners bill had been referred to the Bar Association and that it was hoped that they will endorse and promote it.

Dr. Benoit said that Dr. Charles Wheeler of Jackson County wanted to know if the Council would object to a bill, referring only to Jackson County, being introduced if the bill for the whole state was not introduced. He was advised that this should be cleared with the Committee on Laboratory Medicine since that was the committee that had worked on the bill.

It was pointed out that without doubt there would be bills introduced in the legislature which would need work to defeat, as well as those that would need support.

Civil Defense

Dr. Siegel reported that there are now 96 self-help training kits in use or being distributed. He said that 60 courses had been given and about 1,500 people had been instructed. He said that recently the State Highway Patrol had put in a medical self-help program, as had the National Guard some time ago. He reported on various meetings that he had attended. He stressed the need for more general knowledge about the chemical and bacteriologic threat. He said that an exhibit at the State Fair was viewed by from 50 to 60 thousand people and that several county fairs had had exhibits. He said there would be an exhibit at the 1963 Annual Session.

MENTAL HEALTH

Dr. Ulett showed slides on the proposed rapid treatment centers for mental health and gave statistics now available on the Rapid Treatment Center in Kansas City and Malcolm Bliss Hospital in St. Louis. He wishes to enlarge these two hospitals with rapid treatment facilities and establish an additional one at the University Hospital in Columbia. See attached report of the Committee on Mental Health for action taken on this item.

In regard to the employment of unlicensed physicians at the state hospitals, Dr. Ulett said that he, Dr. Hardwicke, Dr. Wilson and Dr. Perry were still discussing what could be done about this and that he would report later on this phase.

The question of having osteopathic senior students work in state hospitals full time for four-week periods was discussed, Dr. Ulett pointing out that there are patients in the hospitals on whom there is no case history and that the students would be of aid, also being under direct supervision would learn something of psychiatric care. It was pointed out that this had been done at the Fulton hospital for some time and Dr. Matthews said that it had been of assistance there.

A motion by Dr. Benoit that the use of osteopathic students at this time in state mental hospitals be rejected, after second, lost on vote.

On motion of Dr. Whitener, duly seconded, that approval be given to Dr. Ulett's plan to use osteopathic students for a one year's trial, was approved.

COMMITTEE ON MENTAL HEALTH

Mr. O'Brien presented the report of the Committee on Mental Health.

The Committee on Mental Health met at the Missouri Hotel, Jefferson City, December 2, 1962, with George W. Forman, St. Joseph, Chairman, presiding.

Purpose.—The principle business of the meeting was to review and act further on resolutions adopted by the Missouri Delegation to the First AMA National Congress on Mental Health and Illness held in Chicago October 2-4, 1962. (The Text of these resolutions as they were adopted in Chicago were distributed to the Committee.) The Committee considered the resolutions in the order indicated below:

Resolution I (Endorsemnt and Approval of Dr. Ulett's Program).—It was the unanimous sense of the Committee that this resolution be approved by the Council and that, immediately thereafter, a letter already prepared by Dr. Forman be sent to all county societies soliciting their cooperation with MSMA's effort to achieve passage of the legislation proposed.

Dr. Forman reported that in addition to the letter to the President of the Woman's Auxiliary of the Missouri State Medical Association, reporting the unanimous approval of the program of the Division of Mental Diseases by the Missouri Representatives at the AMA National Congress on Mental Illness and Health held in Chicago in October, similar letters had already been forwarded to the heads of other organizations. These included similar letters to the following: Mrs. W. G. Yeghishian, Mental Health Chairman of the Missouri Congress of Parents and Teachers; Judge Noah Weinstein, President of the Missouri Association of Social Welfare at Clayton, Missouri; Miss Ruby M. Walker, R.N., President of the Missouri State Nursing Association at Jefferson City; and also a similar letter to the President of the Missouri State Organization of the Council of Churches. Each of these organizations was requested to notify their constituent societies and request that they donate one or more meetings to a study of Dr. Ulett's program and consider ways to give his program publicity and backing in their local communities.

Dr. Forman also reported that Dr. Willis McCann, Ph.D., a member of the Executive Council of the State Psychological Society, appeared before that society and proposed that it give its official approval of the program of Dr. Ulett. The proposal was unanimously approved by the Council and included an agreement that they would take every means possible, including the use of the Association's Speaker Bureau to speak for the plan to the lay groups all over the state.

Dr. Forman reported that the Woman's Auxiliary was prepared to assist in the effort following the action of the Council. He outlined generally the steps he believed should be taken, assuming the legislation is introduced in a form acceptable to MSMA, to enlist wide

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public support, including that of church, labor, business and agricultural groups, for its adoption. He suggested that in this activity, MSMA should coordinate its efforts with those of the Missouri Mental Health Association.

Resolution III (More Adequate Insurance Coverage for Emotional and Mental Illness).—After considerable discussion indicating the Committee's unanimous view that insurance coverage for mental illness is at the present time a major problem, it was decided to appoint a sub-committee to study the subject in detail and to draw up a specific plan of action for consideration of the whole committee and then for submission to the Medical Economics Committee of MSMA. The Chairman appointed Dr. George Lawrence of St. Louis as Chairman of the Sub-committee on Insurance.

Attention was called to a recently published book, *Psychiatric Insurance* as a source of valuable data, and Mr. O'Brien stated he would digest materials he has obtained on insurance programs in neighboring states for the use of the sub-committee. The Committee, finally, urged that one of its members be appointed by the next MSMA president to membership on the Association's standing Committee on Medical Economics.

Resolution IV (Programs for Training non-Psychiatric physicians in the understanding and care of the emo- Physicians in the Understanding and Care of the Emotionally Ill and Retarded).—It was the unanimous sense of the committee that the need in this regard was great, particularly in outstate areas, and that it would become greater as the rapid treatment center program gets underway and increasing numbers of discharged patients are sent home to receive continuing care and help from local doctors. After considerable discussion the committee decided that the following steps should be taken to meet the need.

First it was decided that the two psychiatric societies in Eastern and Western Missouri will prepare lists of their members willing to serve as members of a speakers' bureau and that the two lists, together with lists of proposed subject topics, will be sent to Dr. Forman and to the MSMA office. The Committee and the staff will then cooperate to obtain speaking engagements at scientific meetings of local societies throughout the state.

Second, in order to strengthen the program, and provide guidance and help so far as possible at the local level, the committee decided to ask the councilor of each district to set up a district mental health committee headed or made up of psychiatrists so far as possible. Similarly, county societies will be urged to establish mental health committees, headed in areas where no psychiatrist is available, by a general practitioner or other physician with special interest in mental health.

The question of how a similar program might be developed to reach osteopaths was considered briefly, but it was the sense of the committee it would be best to concentrate on the medical profession for the time being, at least until the educational activity is well established.

Resolution II (Facilities for Treatment of Emotionally Disturbed Children and of the Mentally Retarded).—The committee's discussion of this resolution was extended and disclosed substantial differences of opinion particularly in regard to Paragraph 2 concerning the dedevelopment of school social service workers to aid in recognizing and dealing with emotionally disturbed children.

Some members of the committee felt that the problem was not in recognizing emotional disturbance, but rather what to do about it, and they felt the contribution of social workers in this regard would be minimal. The view was also expressed that this might well be simply a welfare group maneuver to give social workers, as such, formal status they presently do not have in the school personnel picture.

It was assumed by the committee that the Missouri Association for Social Welfare will propose and back legislation to bring social workers into the school mental health program. The question was asked whether or not the training of school nurses for the purpose would not be a good alternative suggestion, the point being made that the school doctor and the nurse should be at the core of the entire school health program.

Certain members of the committee, on the other hand, stated that their personal experience with social workers and "mental health workers" led them to believe there might be substantial value in the program proposed by the resolution. The committee, in other words, was divided. There appeared to be a consensus that a need of some kind exists. The question remained, however, in the minds of a number as to whether social workers were the right people to fill it whether they were, or could be, or ought to be qualified to undertake such work.

It was clear from the discussion that the committee could not accept Paragraph 2 of the resolution. Paragraphs 1, 3 and 4 appeared acceptable as there was very little discussion of them.

As to Paragraph 5, it was the sense of the committee that additional personnel and facilities for the care of emotionally disturbed children are of great importance.

In connection with the mentally retarded, Paragraph 6, the committee felt the need was for a better job of evaluation to determine the precise degree of educability in each case so that care would be aimed only at what could realistically be considered possible. To improve evaluation procedures, the committee felt the need was for more and better personnel in already existing centers and in the projected intense treatment centers in St. Louis, Kansas City and Columbia. It was suggested the committee might in future assist the Division of Mental Diseases to strengthen its program in this area.

Miscellaneous.—Turning to other matters, the committee discussed briefly the possible future availability of Federal matching funds to support the state program.

The Chairman asked the committee's view on the proposed publication of a roster of Missouri psychiatrists to be given out to delegates to the coming convention of the American Psychiatric Association in St. Louis next spring. The committee turned the proposal down.

After some discussion, it was tentatively decided that the committee would meet again before the annual session of MSMA, but that the date would not be set until the relevant mental health bills had been introduced in the legislature and the members of the committee had had an opportunity to study them.

On motion of Dr. Dowell, duly seconded, the report of the Committee on Mental Health was accepted.

DENTAL MOBILE UNIT

Dr. Kinder reported that the Elks Association has purchased a mobile dental unit for use for retarded children. He said that a commission had been formed

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which had met during the summer, the commission being composed of members of the MSMA Committee on Infant and Child Care, the Division of Health, the Division of Mental Diseases, the Crippled Children's Service and the Elks. The Elks hope ultimately to have five units available. The Crippled Children's Service will pass on the patients to be handled and the Division of Health will man the unit.

Dr. Kinder was thanked for making this information available to the Council.

BUDGET

Dr. Doyle presented the following budget, which on his motion, duly seconded, was adopted:

Salaries	$ 64,300.00
Office Rent and Light	4,700.00
Postage	5,000.00
Printing and Stationery	5,000.00
Journal Expense	42,000.00
Telephone and Telegraph	3,000.00
Ins. Expense-Emp. Pension Plan	8,000.00
Legal and Professional Fees	3,500.00
Taxes—Payroll	2,000.00
Travel Expense	7,600.00
Committee Expense	48,600.00
Furniture and Fixtures	500.00
General Expense	3,000.00
MSMF Assessment	24,375.00
MSMF Expense	750.00
Total	$221,725.00

TREASURER'S REPORT

Dr. Doyle gave the Treasurer's report which was accepted for filing for audit.

BLUE SHIELD

The information that had been sent to physicians on the Blue Shield Over-65 plans was presented and discussed briefly.

ANNUAL SESSION PROGRAM

Dr. Matthews read the scientific program for the 1963 Annual Session. He said that following the session he would like to circularize the membership again as to their wishes about future programs. He said that 49 of the 54 available technical exhibit spaces had been reserved and called attention to the part the exhibits play in paying for the annual session.

INTRAVENOUS INJECTIONS

Mr. O'Brien presented a letter from the Attorney General questioning whether or not nurses could legally give intravenous injections. After discussion of the policies followed in different localities, on motion of Dr. Benoit, duly seconded, the giving of intravenous injections by registered nurses, under the supervision or order of a physician, was approved.

BOARD OF HEALING ARTS

Dr. Perry said that he had heard nothing from the physical therapists since the last Council meeting. He said that the Board of Healing Arts would prefer not to have them licensed by that Board. He said in some states it was done by the medical board, in others by the board with physical therapy members on it and in other states by a combination of the two and that at present there is no certification in Missouri.

Mr. O'Brien pointed out that the MSMA had not taken an active interest previously, partially because there was more pressing legislation.

Dr. Lapi speaking for pathologists said that most of them were against the licensing of paramedical personnel and called attention to the McKeown Commission of the AMA.

On motion of Dr. Benoit, duly seconded, it was agreed that physical therapists should not be licensed by the State Board of Registration for the Healing Arts.

California situation: Dr. Perry said that about 2,600 individuals had been granted M.D. degrees through the change of the California College of Osteopathy to the California College of Medicine. He said they were of four groups—the faculty of the college, graduates practicing in California, men practicing in other states who had graduated from the school, plus all osteopaths, irrespective of school of graduation, who held California licenses to practice as osteopathic physicians. It was pointed out that the school was now accredited as a medical school. Dr. Perry said that the Missouri Board had had 358 inquiries. Dr. Perry said that all of these men were granted an M.D. Degree by the California Medical College because they held licenses to practice Osteopathy in California. It was emphasized that none of these people would be given licensure as an M.D. until a suit is brought or the Attorney General rules on it. Various methods of handling this matter was discussed.

On motion of Dr. Dowell, duly seconded, it was voted that it is the view of the Council that the Missouri Board for the Healing Arts ought in no circumstance grant a license to practice as a Doctor of Medicine in this state to any person who had not attended and fully completed the curriculum of a school of medicine duly accredited by the AMA during the period of his attendance and study.

LICENSE FEES

A bill to provide for temporary licensure is not yet available. Action on this item was deferred until the next meeting.

CHANGES IN PRESENT LAW

Dr. Perry said that the Attorney General has suggested some changes in the present medical practice act, including adding "attempting to" to the "committing abortion" clause; changing the wording concerning "moral turpitude." Also that the following paragraph be included: "Operation of, or professional connection with, or employment by any man, corporation, company, professional school, clinic or institution that advertises by the use of hand bills, posters, circulars, cards, neon or other electric signs, radio, newspaper or any kind of printed or written publication to make examinations of the eyes for glasses, cure or treatment of cancer or any other diseases, condition or infirmity of body or mind, or to give free examinations."

On motion of Dr. Benoit, duly seconded, it was voted that this wording go into the amendment.

NEXT MEETING

It was decided that the next meeting would be held on February 3, 1963, and on February 2 and 3, if a two day meeting is necessary.

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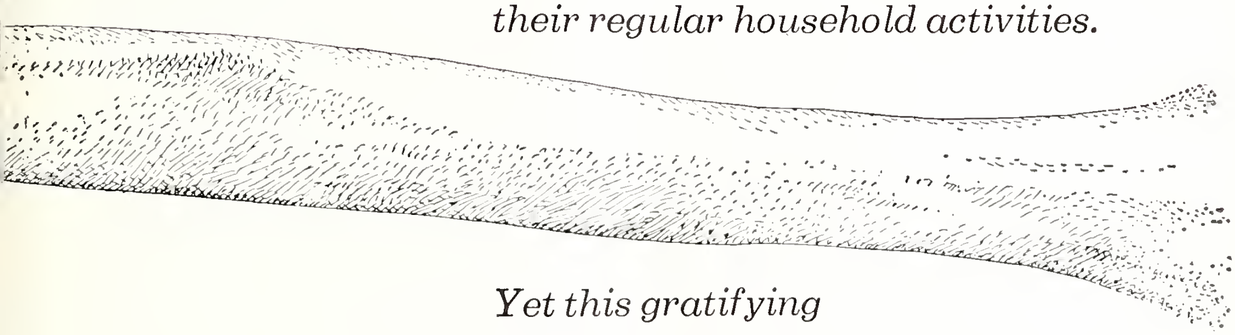

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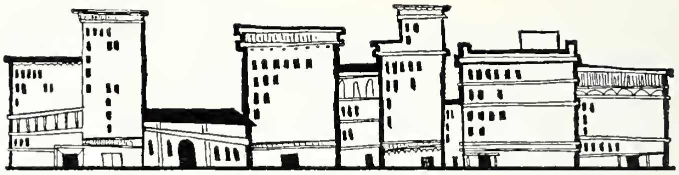

UNIVERSITY OF MISSOURI

Agreement of Affiliation With Kansas City Children's Mercy Hospital

The University of Missouri will have the direct administration of educational and training programs, including academic appointments of professional staff members, at Children's Mercy Hospital in Kansas City under the terms of an agreement of affiliation just signed between the University, Mercy Hospital, and the Kansas City General Hospital and Medical Center, Dean Vernon E. Wilson of the University School of Medicine announced.

The affiliation agreement announced in Kansas City, was agreed to by the University Board of Curators and the Board of Directors of the General Hospital, having previously been approved by the Mercy Hospital Governing Board of Trustees. It takes effect immediately.

Mercy Hospital will continue fully responsible for its medical service program. The educational program will be administered by the University School of Medicine through the Medical Director of Mercy Hospital. Dean Wilson, as head of the School of Medicine here, will have overall supervision of the educational program.

The three-way agreement between the University, Mercy Hospital and Kansas City General follows an agreement of affiliation between the University and General Hospital last September. The present agreement is along lines similar to that with General Hospital.

In the part of the agreement discussing the University's role educational programs are defined as "those programs in which a collegiate degree or nationally recognized certification is involved. These programs shall include internships, residency, nursing education, physical therapy, medical technology, x-ray technology, and such other programs as fall in the above definition."

Visitors

Dr. Galdino E. Valvassori, assistant professor of radiology at the University of Chicago, was a guest of the department of radiology on November 16. Dr. Valvassori lectured to the radiology staff on "Anatomy of the Petrous Bone."

Recent visitors to the department of microbiology have been Dr. Gordon Meikeljohn from the University of Colorado who spoke to the second year medical class in medical microbiology on "Respiratory Tract Infections"; Dr. Allan Granoff from St. Jude Hospital in Memphis, Tenn., who gave a departmental seminar entitled, "Mixed Infection Studies With Newcastle Disease Virus"; Dr. Charles Phillips from Fort Detrick in Frederick, Md., who gave a departmental seminar on "Space Microbiology"; Dr. Heinz Fraenkel-Conrat from the University of California who spoke on "Recent Studies on Virus Structure and Synthesis" as a special topic in biochemistry; Dr. E. R. Arquilla from the University of California Medical Center who gave a departmental seminar on "Immuno-chemical Aspects of Insulin"; and Dr. Wayne Umbreit from Rutgers University who visited the department prior to the EMB ASM meeting in St. Louis and discussed microbiology research and teaching methods with members of the department.

New Appointments

William Douglas Bryant, Leawood, Kan., has been appointed to be associate professor in the department of community health and medical practice, effective on September 1. Dr. Bryant received his B.S. and M.S. degrees from Northwestern University and his Ph.D. from New York University. Since 1949 he has been executive director of research at Community Studies, Inc., Kansas City, Mo.

Marilyn Blanke, Sedalia, has been appointed instructor in the department of community health and medical practice; and chief occupational therapist, section of physical medicine, effective November 15. Miss Blanke received a B.S. in occupational therapy from the University of Kansas. She has served as director of occupational therapy at the Crippled Children's Center at Bothwell Hospital in Sedalia since 1961.

Trips and Talks

Dr. James A. Green, associate professor of anatomy, was in Mexico City during the Thanksgiving week to consult with Dr. Manuel Maqueo,

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side effects: In 1502 patients given daily doses of Skelaxin ranging from 1200 to 9600 mg., 10.5% experienced side effects. These were generally mild, with nausea or gastrointestinal upset being most frequent. Only 0.5% experienced vomiting attributable to the drug, however. Other effects infrequently noted were drowsiness, dizziness, headache, nervousness or "irritability," and a hypersensitivity reaction of light rash. All cleared promptly upon withdrawal of the drug.

precautions: Variations in white cell count and hemoglobin levels have been reported in a few patients. Therefore Skelaxin therapy for more than 10 days is not recommended. A drug relationship was indicated in one of four cases of leukopenia reported in 360 Skelaxin-treated patients. In all cases followed-up, the WBC returned to normal after discontinuance of Skelaxin.

One instance of hemoglobin depression (less than 10 Gm.) which may have been drug-related was reported, in 306 patients; a return to an essentially normal level followed the discontinuance of medication.

One case of jaundice has been reported. Elevation of cephalin flocculation tests in several instances were not paralleled by changes in other liver function parameters. Urinalyses in 280 patients were essentially normal; false positive Benedict's tests, due to an unknown reducing substance in the urine, were reported in 9 patients.

contraindications: Do not administer to patients with known tendency to drug-induced anemia, or give to them only under careful supervision. Not recommended for use during pregnancy.

Robins

chief of pathology at the Hospital for Obstetrics and Gynecology, concerning a joint research project. Later in the week, Drs. Green and Maqueo presented a paper at the annual meeting of the Mexican Endocrine Society in San Jose Purura, on "Electronmicroscopic Studies of the Human Ovary."

Dr. Jerry Brown, associate professor of anatomy, presented a preliminary report on the development of the olfactory bulb in a series of bat embryos, at a meeting of a comparative neurology group, November 17 and 18, in Ann Arbor, Mich.

Dr. Frank B. Engley Jr., professor and chairman of the department of microbiology attended the Eastern Branch of the American Society for Microbiology meeting in St. Louis at the Monsanto Chemical Research Facilities and presented a talk entitled "Tissue Culture Assay of Bacterial Toxins," on December 1. On December 6 he attended a Chemical and Biological Warfare symposium at the University here and presented a talk entitled: "Perspective in Biological Warfare" and took part in a round table discussion on biological Warfare.

On October 29 and 30, Dr. Engley attended the Missouri Hospital Association meeting in Kansas City, and presented a talk on "Infectious Disease, Aseptic Technique, and the Nurse."

Dr. Herbert S. Goldberg, professor of microbiology, participated in a Leptospirosis Research Conference in Chicago, and was elected chairman of the diagnostic committee for the 1964 and '65 conferences at Chicago. On December 1 he attended the EMB of the American Society for Microbiology meeting in St. Louis and was elected president for 1963. From December 11 to 17 Dr. Goldberg was in Geneva, Switzerland, as a member of an expert committee of World Health Organization to discuss "Public Health Aspects of Antibiotics in Foods and Foodstuffs."

Dr. James T. Barrett, associate professor of microbiology, attended the EMB of the American Society for Microbiology December 1 in St. Louis and presided over the scientific and business session. Dr. Richard M. Hyde, instructor in microbiology, also attended the meeting and presented a talk on "Factors Effecting Production of Streptococcal DPN-ase."

Dr. David G. Hall, associate professor of ob-

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stetrics and gynecology and chairman of the department gave a lecture at a meeting of the St. Louis Gynecological Society in St. Louis on December 13.

Dr. Clement E. Brooke, associate professor of pediatrics and chairman of the department, gave a talk on "Biological Defense" at the symposium on Biological and Chemical Warfare here on December 6. Attending a meeting of the Midwest Society for Pediatric Research in Cincinnati, Ohio, from the department of pediatrics were: Dr. Brooke, Dr. Leovigildo Cokingtin, instructor, Dr. Henry Clever, resident physician, and Dr. Harold Martin, resident physician. Dr. Cokingtin presented a paper co-authored by Dr. Robert L. Jackson, and Dr. Fikri M. Hanna on "Body Composition of Infants Born to Diabetic Mothers and Normal Infants."

On November 9 and 10, the Third Annual M.D. Day at the University of Missouri, Dr. Brooke participated in a panel discussion on "Treatment of Respiratory Tract Infections." He also spoke to the Federated Women's Club of Jefferson City, Oct. 30 on "School Age Children."

Dr. Harry Stoeckle, associate professor of pediatrics, participated in a panel discussion on "Pacemakers" at the 15th Annual Conference on Engineering in Medicine and Biology, November 5 to 8 in Chicago. Dr. Stoeckle is co-author of a paper presented by Dr. John Schuder at the meeting entitled, "The Theoretical Aspects of a Micro-Module Pacemaker." October 25 to 27 Dr. Stoeckle presented a paper, "Experimental Results With a Micro-Pacemaker Implanted Directly in the Left Ventricle," at a meeting of the American Heart Association held in Cleveland.

Dr. Robert L. Russell, associate professor of pharmacology, spoke to the Mid-Missouri County Medical Society at Rolla on November 15 in regard to some recent pharmacology of tranquilizers. Dr. Russell has recently been elected a Fellow in the American Association for the Advancement of Science.

Dr. Jacob O. Sines, associate professor of clinical psychology, attended meetings of the Institute of Radio Engineers, the American Institute of Electrical Engineers, and the Instrument Society of America in Chicago, November 5, to discuss electronic monitoring and control of physiological processes. He also attended discussions of

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the use of computer technics in diagnosis at the meetings.

Dr. Fernando Tapia, associate professor of psychiatry, spoke on how children are motivated for learning and the problems inherent in the process at a meeting of the Lee School, Columbia P.T.A., November 15.

Dr. Robert E. Froelich, assistant professor of psychiatry, and Dr. Lester E. Wolcott, instructor in the department of community health and medical practice, discussed physical, chemical and emotional aspects of flying with the Missouri Pilots Association in Columbia, November 16. Dr. Froelich also presented Dr. Ulett's mental health program for the State of Missouri at a noon meeting of the Audrain County Mental Health Association in Mexico, Mo., October 30.

Drs. Gwilym S. Lodwick and T. E. Keats, professors of radiology, and resident physicians Cosmo Haun, Kenneth Rall, and Harold Wilkins, and Mr. George Koenig, associate professor of radiologic technology, attended the meeting of the Radiological Society of North America, November 25 to 30. At the meeting, Dr. Lodwick participated in a refresher course on film interpretation. Drs. Keats, Rall, and Mr. Koenig displayed an exhibit on mammography in relation to their research project on this subject. Dr. Haun presented a paper entitled, "Computer Diagnosis of Primary Bone Tumors: A Preliminary Report."

Mr. George Koenig attended the mid-year meeting of the Board of Directors of the American Society of X-Ray Technicians in Pittsburgh, Pa., Dec. 5 to 8; he is also chairman of the education committee of this organization.

Dr. John Modlin, professor and chairman of the department of surgery, attended the annual Clinical Congress of the American College of Surgeons in Atlantic City, N. J., from Oct. 15 to 17. He served as moderator of the research forum on Cancer Research and participated in the discussion on surgical movies. At a meeting of the Warrensburg, Mo., Area Medical Group, Nov. 28, Dr. Modlin spoke on the subject "Lifesaving Measures for the Severly Injured Patient," and presented the film "External Cardiac Massage."

Dr. John A. Buesseler, professor of surgery, chief of the section of ophthalmology, presented a postgraduate course on "Ophthalmic Radiology: Diagnosis" at the annual meeting of the American Academy of Ophthalmology and Otolaryngology on November 6 in Las Vegas. He also presented a paper on "Chronic Dacryocystomycosis Due to Canadida Parakrusei" on November 8 at the same meeting.

Dr. Ian Thompson, professor of surgery and

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Magnesium (as Magnesium Betaine Citrate)	6.0 mg.
Vitamin B-1	1.5 mg.
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chief of the section of urology, presented "Important Aspects of Calculus Disease," at a meeting of the Moberly Medical Society, December 13. From October 20 to 28, Dr. Thompson and Drs. Ross Jr., and Kovacsi attended the South Central Section of the American Urological Association meeting in Mexico City, Mexico. Dr. Ross read a paper authored by Dr. Thompson entitled: "Experiences With a New Technic for Supravesical Urinary Diversion" and a paper written by Dr. Robert A. Smith of the Kansas City General Hospital on "Urethral Replacement With Arterial Grafts." Dr. Laszlo Kovacsi presented his paper on "Ureteropelvic Junction Reconstruction: An Experimental Study."

Dr. Thompson also spoke to the Missouri Academy of General Practice on "Certain Aspects of Urinary Tract Calculus Disease" in St. Louis, Nov. 3 and 4.

Dr. Kenneth K. Keown, professor of surgery, chief of the section of anesthesiology, participated in a workshop held by the Missouri Association of Nurse Anesthetists in St. Louis, Nov. 4. He spoke on "Respiratory System Problems—Cause and Treatment."

Dr. Hugh E. Stephenson Jr., professor of surgery, spoke at a meeting of the MU faculty women's club Dec. 3, on "Russia as I Saw It." At an Oct. 14 to 20 meeting in Atlantic City, sponsored by the American College of Surgeons, the James IV Association of Surgeons, Inc., Dr. Stephenson made a report to the group of the James IV Association on undergraduate surgical teaching in the medical school of the United Kingdom and Ireland. Dr. Stephenson also attended the meeting of the John and Mary R. Markle Foundation in Williamsburg, Va., Oct. 24 to 27. At the Veterans Administration Hospital in Fayetteville, Ark., Nov. 13, Dr. Stephenson conducted grand rounds and lectured on "Recent Advances in Cardiac Arrest and Resusitation."

Dr. John H. Landor, associate professor of surgery presented a paper "Pancreatic Duct Ligation and Gastric Secretion," at the meeting of the American College of Surgeons Oct. 15 to 19 in Atlantic City.

Dr. Arthur E. Baue, instructor in surgery, spoke to the Cole County Medical Society and wives, November 1, in Jefferson City on the National Health Service of England along with a comparison of the present problems in this country with their situation.

Dr. Charles K. Casteel, resident physician in surgery-urology, presented a paper written by

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Dr. Ian Thompson and himself on "Deep Urethroplasty for Stricture: A New Technic" at a meeting of the Southern Medical Association's 56th Annual Meeting in Miami Beach, Nov. 12 to 15. At a meeting of the Mid-Atlantic Section of the American Urological Association in White Sulphur Springs, W. Va., held Nov. 7 to 10, Dr. Casteel presented a film on "Surgical Treatment of Urinary Incontinence."

Miss Lucille Spalding, professor of nursing, and Miss Anna Shannon, assistant professor of nursing, attended a meeting of the National League for Nursing Council of member agencies department of baccalaureate and higher degree programs, in Phoenix, Ariz., Nov. 14 to 16. Miss Shannon, Beverly Lindsey, Betty Jo McCracken, Barbara Barnes and Marion Kretzer attended the Psychiatric Conference Group of the Missouri State Nurses' Association in Kirksville, November 29.

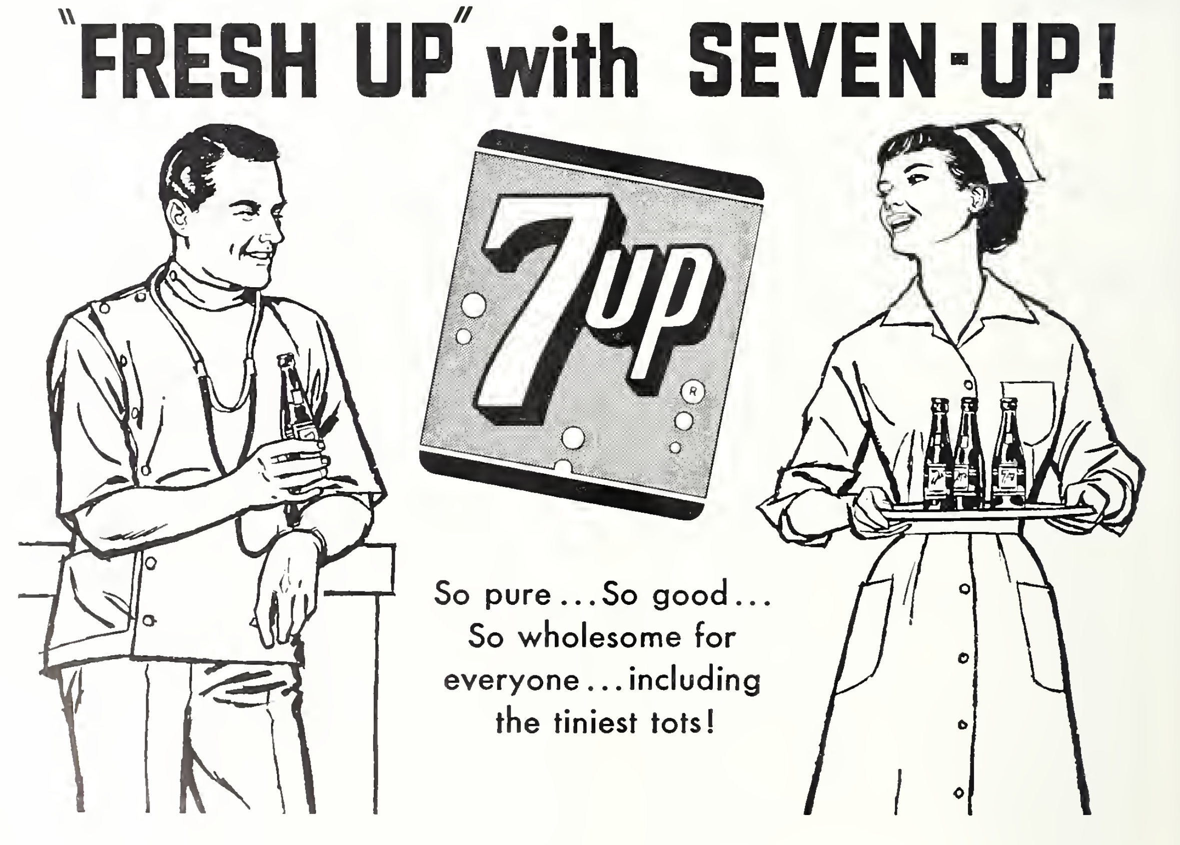
Dr. Aimee N. Moore, director of the department of nutrition and dietetics, and Mrs. Byrdine Tuthill, assistant director of the department, attended the annual meeting of the American Dietetic Association in Miami Beach, Oct. 6 to 12. As a delegate from Missouri, Mrs. Tuthill was elected a delegate from the house of delegates and will be a member of the Council of the House of Delegates and the Co-ordinating Cabinet of the ADA.

ELLIS FISCHEL STATE CANCER HOSPITAL

The United States Public Health Service has awarded a $37,610.00 grant for the study of chemotherapy agents in the treatment of cancer to Dr. A. McChesney Evans, internist. Co-investor will be Dr. Robert T. L. Long, surgeon. The grant will be used for clinical evaluation of cancer chemotherapy agents.

The United States Public Health Service also awarded traineeship awards to two residents at Ellis Fischel State Cancer Hospital. Dr. Galen Cook received an award of $7,500.00 and Dr. Burl Dillard's award was for $10,000.00.

Two papers were presented by Dr. Jose M. Sala, Chief of Radiotherapy, at the 48th annual meeting of the Radiological Society of North America held in Chicago during the last week of November. Dr. Sala presented a significant paper on "Treatment of Carcinoma of the Cervical Stump." Dr. Sala also presented, in collaboration with Dr. Gene Spector, an exhibition and paper



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on "Evaluation of Tumors of the Upper Air Passages With Single Emulsion Film." The research on this paper is still in progress.

On October 24, 1962, Dr. John S. Spratt Jr. spoke at the fifth Annual Faun S. Mulliken Symposium in St. Louis. This is the St. Louis City and St. Louis County Unit of the American Cancer Society. He discussed "Neoplasms of the Large Intestine."

On November 8, 1962, Dr. Spratt spoke at a meeting of the Chariton-Macon-Monroe-Randolph Medical Society in Moberly, Missouri. He presented a paper on "Changing Concepts of Cancer" as presented at the eighth International Cancer Congress. Dr. Spratt attended the eighth International Cancer Congress in Moscow, Russia, this past summer and presented two papers at the meeting.

On November 29, 1962, Dr. Burl Dillard, one of the recipients of the traineeship award from the United States Public Health Service, presented a paper on "Epidermoid Carcinoma of the Anus" at the scientific program of the Western Surgical Association in St. Louis.

On December 15, 1962, Dr. John S. Spratt, Chief Surgeon, spoke on "Patterns and Rates of Neoplastic Growth" to Surgical Grand Rounds at the Jewish Hospital of St. Louis.

Members of the medical profession are invited to the professional program of the Consulting Staff of the Ellis Fischel State Cancer Hospital at 9:30 a.m. on Sunday, March 31, 1963. The program will be held at the Cancer Hospital in the clinic area and will consist of ten papers on various aspects of the diagnosis and treatment of cancer presented by members of the consulting staff, the full-time staff of the Cancer Hospital and the resident staff.

ST. LOUIS UNIVERSITY

The first annual report of the Saint Louis University Hospitals, Firmin Desloge Hospital and David P. Wohl Memorial Mental Health Institute, covering the fiscal year ending August 31, 1962, was released the last week in December by Mr. John B. Warner Jr., director.

The report outlined in graphic detail the functions of personnel and services performed at Firmin Desloge Hospital and the David P. Wohl Memorial Mental Health Institute.

Nursing service cared for patients who spent 80,851 patient days in the hospitals. The dietary department prepared 565,696 meals for these patients and the personnel who cared for them. Volunteers, both senior and junior members, gave 30,295 volunteer hours. Laboratories performed 342,036 tests, while the x-ray department gave 24,374 examinations and treatments. Physical Therapy and Occupational Therapy Depart-

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ments gave 23,929 treatments, and the pharmacy filled 121,230 prescriptions. The laundry processed 1,038,000 pounds of linens.

The certified audit indicated that the Saint Louis University Hosptal operated at a total expenditure of $2,765,913.20 with a $195,143.45 deficit. Through the Clinical Teaching Services, $1,001,273.01 of patient care was donated to the community.

The report was accompanied by an opening announcement by Mr. Warner, which read:

"We at the University Hospitals have an obligation to provide leadership in patient care, in medical education and in research. We feel that this responsibility is being fulfilled by the volume of patient care that is rendered, a large portion of which is donated through University sources to the community; by the many University teaching programs that are conducted in our hospitals; and by the varied research projects that are under study."

"You, as members of the Saint Louis community, have assisted us in these efforts. Examples of your assistance are the financial support of the United Fund of Saint Louis; the thousands of hours of free service donated by the physicians; and the efforts of those who have worked voluntarily in our auxiliary."

"It is by this fulfillment of our shared responsibility that the work of our University Hospitals is made possible. So that you may better understand this responsibility and work, we present this report to you."

Lectures

Dr. Edward T. Auer, director of the department of neurology and psychiatry, spoke before the University's President's Council at a dinner meeting at the David P. Wohl Memorial Mental Health Institute. A tour of the Institute followed Dr. Auer's address.

Dr. Bruce Dill, distinguished research professor, department of physiology, Indiana University, gave a lecture entitled "Physiologic Effects of High Altitude" at a special seminar scheduled at the School of Medicine December 10. He discussed the results of studies in the Andes mountains and on Pike's Peak, during which he evaluated the effect of altitudes on the human being. The evaluations included the aging process of the human being at varied altitudes. His lecture was open to faculty, students and physicians practicing in the St. Louis area.

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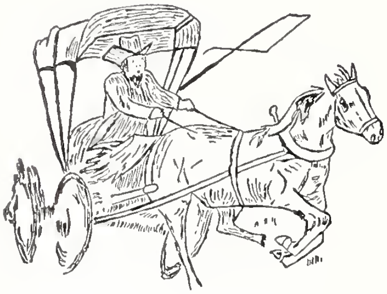

FORTY YEARS AGO

Dr. R. J. Terry, professor of anatomy, Washington University School of Medicine, was elected secretary of the Anthropological Section of the American Association for the Advancement of Science at a meeting held on December 29, 1922.

Professor Oskar Frankel, of the Frauenklinik in Vienna, will arrive in New York early in March for an extended visit to the medical centers of the United States. He is a recognized authority in the field of obstetrical and gynecological pathology and endocrinology. The St. Louis Gynecological Society has extended an official invitation to him to come to St. Louis as their guest.

At the annual meetings held at Toronto, Canada, December, 1922, Dr. E. L. Opie, professor of pathology at Washington University School of Medicine, was elected president of the American Society of Experimental Pathologists; Dr. P. A. Shaffer, professor of biological chemistry at Washington University School of Medicine, was elected president of the American Society of Biological Chemists; Dr. J. Erlanger, professor of physiology at Washington University School of Medicine, was reelected treasurer of the American Physiological Society.

A recent dispatch from Tokyo announces the appointment of Baron Yoshihiro Takagi, chief surgeon and professor of surgery of the Tokyo Charity Hospital and Medical College, as a member of a commission of six Japanese doctors who will arrive in the United States early in March as guests of the Rockefeller Foundation for the purpose of studying American and Canadian medical institutions and methods.

TWENTY-FIVE YEARS AGO

The Woman's Auxiliary to the Buchanan County Medical Society were guests of the Buchanan County Medical Society at the annual installation meeting at the Molla Club, St. Joseph, on December 15. The Francis Marion's String Ensemble played during the banquet. Dr. Charles Greenberg, retiring president, administered the oath of office to the incoming officers.

The Clinton County Medical Society met at the Cameron Hotel, Cameron, on December 8. Dr. A. S. Bristow, Princeton, Councilor, made an excellent talk on organized medicine.

The Linn County Medical Society met in the office of Dr. Roy Haley, Brookfield, on January 11.

The Marion-Ralls County Medical Society met at St. Elizabeth's Hospital on January 7, with Dr. C. E. Salyer, Hannibal, president, in the chair. Fifteen members were present. Dr. E. M. Lucke, Hannibal, asked that all physicians treating measles report cases to his office so that he could quarantine. After a discussion on chlorine washes for glasses in public places, a motion that the Marion-Ralls County Medical Society go on record as suggesting that the city council adopt an ordinance for sterilization of glasses in restaurants, cafes, taverns and all public places did not carry.

TEN YEARS AGO

The 1953 Annual Session will be held in Kansas City, April 26, 27, 28 and 29 at the Municipal Auditorium. As usual the meeting will revolve around the scientific sessions and the House of Delegates. Scientific and technical exhibits will again provide added attraction.

J. M. Perry, M.D., Princeton, was honored for his fifty years of practice at a dinner given December 4 by the Princeton Chamber of Commerce. More than a hundred persons were in attendance.

Among Colonels appointed by incoming Governor Phil M. Donnelly are the following physicians: Drs. Claude J. Hunt, Kansas City; S. F. McCracken, Excelsior Springs; Roland F. Elkins, Springfield; W. O. Finney, Chaffee; A. D. Markel, Poplar Bluff; E. L. Spence, Kennett.

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There are many reasons why you don't see a continuation of these tragic stories today – not the least of which has been the dedication of American physicians and the quality of medical education. And another, we sincerely believe, has been the quality of medicines which have been made available.

Yet, the value of independent drug research has been seriously challenged – research which has, in the past 30 years alone, helped to add nearly 10 extra years to the average lifespan in the United States. Yet, because the cost of the search must be reflected in the price the patient pays for a prescription, is it too expensive to continue? Unfortunately, perhaps those who might have the best answer can offer only silent testimony.

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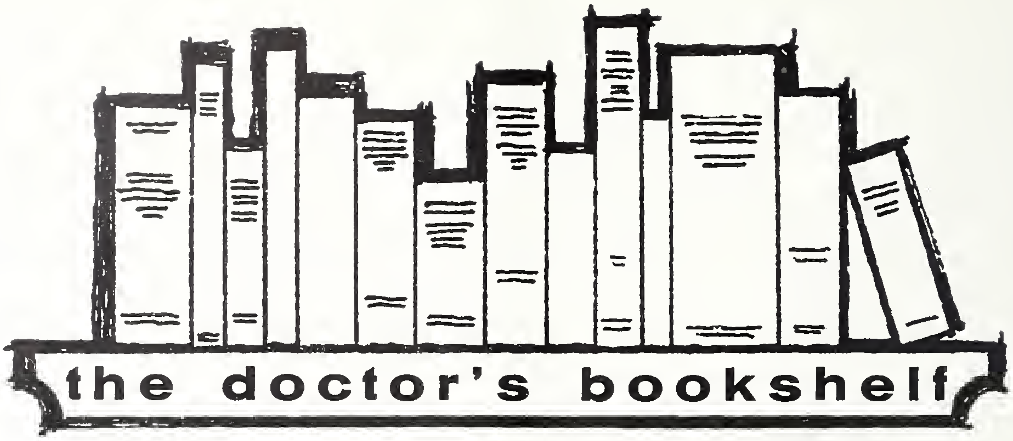

BOOK REVIEW

Atlas of Clinical Endocrinology, by H. Lisser, M.D., Clinical Professor Emeritus of Medicine and Endocrinology, University of California School of Medicine, San Francisco, Calif., and former President, The Endocrine Society; and Roberto F. Escamilla, M.D., Clinical Professor of Medicine, University of California School of Medicine, San Francisco, California, and Civilian Consultant and Chief of Endocrine Clinic, Letterman Army Hospital, San Francisco, California. Second edition, The C. V. Mosby Company, St. Louis, 1962. Price: $23.00.

This book presents a complete presentation of most all of the encountered endocrine disorders in clinical medicine. The section on laboratory testing is quite excellently presented. As its title suggests, the work is mainly an atlas dealing with a brief discussion of symptoms, physical signs, laboratory tests, differential diagnosis and treatment.

The photographs are excellent. They present the pertinent physical findings of each disease excellently. It is noteworthy how complete the discussions of the laboratory tests are, considering the brevity of the pertinent discussions. The treatments are up-to-date, and include a review of not only the good, but the weak points of various types of therapy.

The major weakness of the treatise lies in the perhaps too brief discussion of many syndromes where one might care for considerable more detail—particularly in the biochemical aspects of the hormones and drug therapy utilized. There, also, one might desire a more extensive discussion of the various chemical perimeters found in differential diagnosis of various diseases.

Aside from these criticisms, this book represents an excellent quick reference for checking some specific points of differential diagnosis or chemical determination or therapy, in any particular endocrinopathy.—F.M.

Courtroom Medicine—The Low Back, by Gelfand and Magana, Matthew Bender and Company, Inc., New York, 1962.

The physician in the courtroom and the lawyer in the courtroom sometimes present mutual problems. The book under review, *Courtroom Medicine—The Low Back*, published by the Matthew Bender and Company, Inc., of Albany, New York, special medicolegal publishers, is worth keeping because it can be of use both to the physician and the lawyer.

An uninformed physician is sometimes at the mercy of the lawyer. Questions may be put to him in the vernacular which he may find difficult to transpose from his more technical vocabulary. This volume presents many easy to understand questions.

To the specialist some of the material may seem sophomoric. However, it can happen that a physician who received an "A" in anatomy, 40 years ago, when confronted by a lawyer who has spent only a hundred hours on the subject in question may appear to serious disadvantage.

The volume is replete with diagrams which are particularly helpful, as for example those which would illuminate problems involved in a paraplegic case.

Physicians will do well to refer to this volume and lawyers also can learn from it. N. H. A.

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All material other than scientific should be received prior to the first of the month preceding month of publication.

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WASHINGTON

To Policy Committee

Representatives Thomas B. Curtis and Durward G. Hall of Missouri were elected on January 25 to the House Republican Policy Committee.

The committee determines party positions on legislation and supervises party research and analysis.

New Legislation

While no legislation of Administration advocated type of care for the elderly through Social Security was introduced early in the session, one early bill was reintroduced by Senator Pat McNamara (D. Mich.) to establish a hospital benefits program for retired persons financed through Social Security.

The McNamara bill would provide hospital and nursing home care and related health services for all retired persons 65 years of age and over, except for federal Civil Service retirees, who are covered by other programs.

Senator McNamara is Chairman of the Senate Special Committee on Aging. Showing the feeling of Senator McNamara, in introducing the bill he said: "Last year, the Senate debated the question of hospital insurance at considerable length. Although the Administration bill failed of passage, the margin of defeat was small. Public support for this badly needed program continues to increase and we are hopeful that it will become law this year."

Senator McNamara showed his attitude for King-Anderson type legislation by saying "Existing programs, including the Medical Assistance Act of 1960, are inadequate as to coverage and benefits. The so-called Kerr-Mills program, for example, more than two years after its adoption by the Congress, is available in only 25 of the 50 states."

It was assumed that Senator McNamara would assume the chairmanship of the Public Works Committee.

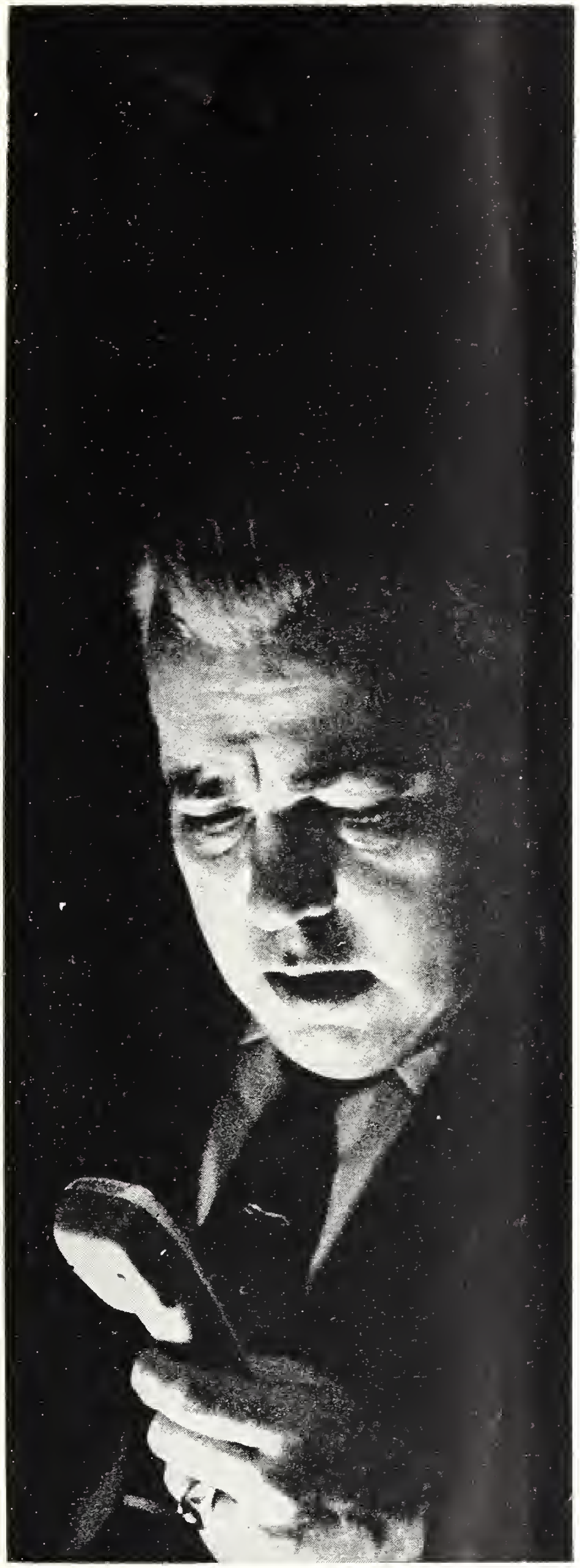
NIH Stresses Training

To finance National Institutes of Health, the President is asking $930.4 million, an increase of $88.4 million over 1962-1963. Percentagewise, training programs are ticketed for bigger raises than research grants. Cancer institute's budget is cut slightly. Other institutes get token increases, with the exception of mental health. That institute is put in first position, fiscally, with a request for $190 million, or nearly $47 million more than the current year's spending. General research is second with $164.6 million and cancer is third with $145.1 million.

Health Care

In January of last year, there were strong pronouncements by the Administration that it would push hard for health care for the aged under Social Security. There still are Administration promises that it will work for passage of a King-Anderson-type bill, but the situation is a little different this year. The biggest domestic issue for the Administration this time is a reduction in income taxes for both individuals and corporations. This proposal is running into important resistance in Congress from Chairman Wilbur D. Mills of the House Ways and Means Committee, where tax bills originate, and from Chairman Harry F. Byrd of the Senate Finance Committee. Tax revision always is a complicated process and is expected to consume a great deal of time in the Ways and Means Committee, where a health care bill from the House would have to originate.

The death of Senator Robert S. Kerr (D. Okla.), the stand of the House Ways and Means Committee Chairman Wilbur D. Mills, the Administration victory in the Rules Committee fight and the selection of two Democrats to the Ways and Means Committee will be four important factors affecting the outcome of the aged care bill in the 88th Congress. Senator Kerr's death will put the spotlight more strongly on Rep. Mills as far as the aged care issue is concerned. Rep. Mills stood up to tremendous pressure from the Administration in the 87th Congress and remains firm in his opposition to providing health care to the aged through Social Security.



Day and night–
less wheezing, coughing, labored respiration in chronic bronchitis and emphysema

New Isuprel Compound Elixir is a balanced expectorant bronchodilator. It contains potassium iodide to promote expectoration and relieve dry cough. Its three bronchodilators, Isuprel, ephedrine, and theophylline, keep bronchi continuously dilated. Luminal is included to negate possible side effect from adrenergic medication and to provide very mild sedation for the patient.

New Isuprel Compound Elixir alleviates symptoms...prolongs relief in chronic bronchitis and emphysema.

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Isuprel® (brand of isoproterenol) HCl	2.5 mg.
Ephedrine sulfate	12 mg.
Theophylline	45 mg.
Potassium iodide	150 mg.
Luminal® (brand of phenobarbital)	6 mg.
Alcohol	19%

Adult Dose: 2 tablespoons 3 or 4 times daily.
How Supplied: Isuprel Compound Elixir is supplied in bottles of 16 fl. oz.

Before prescribing be sure to consult Winthrop's literature for additional information about dosage, possible side effects and contraindications.

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Across
Missouri

Kerr-Mills Implementation

S. B. 140 was introduced in the Missouri Senate on January 29. The bill amends the present Kerr-Mills law regarding the needy so that inpatient hospital care may be furnished to persons who are certified by competent medical authority as requiring hospitalization for serious illness or injury for which outpatient care will not suffice, provided, however, that such hospitalization shall not include those persons admitted to a hospital for elective surgery, diagnostic studies and chronic conditions. In addition, certain dental care and prescribed drugs and medicines may be provided. It is estimated that the cost in state funds will be $4,322,320 for the biennium. The total program, including federal funds, will amount to approximately $10,000,000.

On the same day, S. B. 142, was introduced, which provides that an Advisory Committee to the director of welfare regarding Kerr-Mills shall consist of 11 members, including the Chairman of the Senate Committee on Public Health and Welfare, Chairman of the House of Representatives Committee on Social Security, at least three physicians, the others to be persons interested in hospital administration, nursing home administration, nursing, dentistry and pharmacy.

S. B. 148 was introduced on January 30, and provides that the Division of Welfare shall establish a program for the "near needy." The program shall consist of (1) inpatient hospital care for serious illness or injury for which outpatient care will not suffice; and (2) posthospitalization nursing services not to exceed 30 days after release from the hospital under the direction of a physician who certifies that private duty nursing care is needed. It is estimated that the cost in state funds will be $500,000 for the biennium, plus an equal amount of federal funds, a total cost of $1,000,000.

The three bills were introduced by Senator Cason and others.

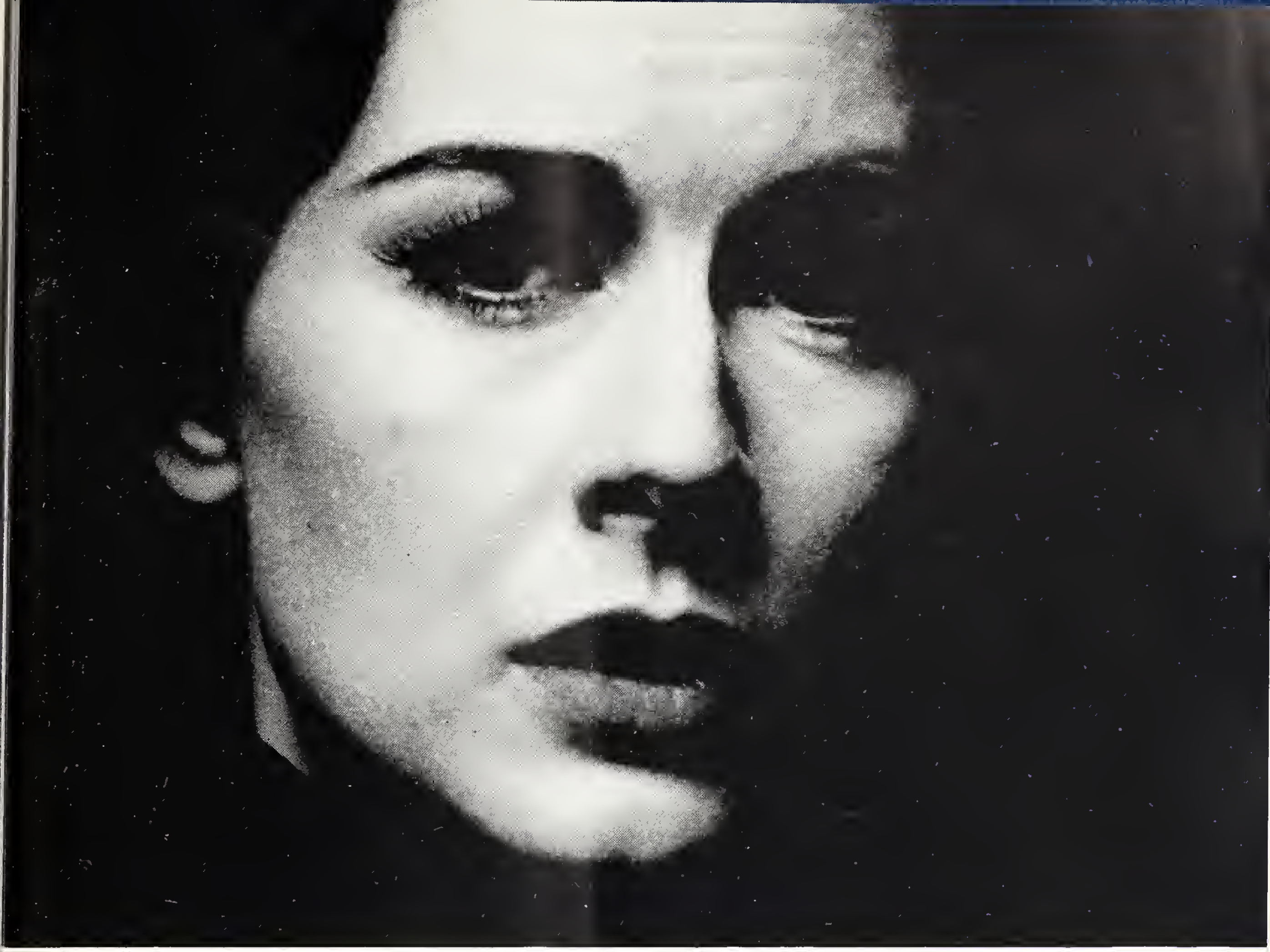
A bill, S. B. 56, authorizing the establishment of Psychiatric Intensive Treatment Centers in St. Louis, Kansas City and Columbia, has been introduced.

Mental Health Commission of Missouri Reports

Recently, the Mental Health Commission made the following progress report:

- Progress in the mental hospital system of Missouri has been steadily accelerating in the last decade. During this period, the total budget of the Division of Mental Diseases has more than doubled. As a result, there has been a constant improvement in the type of care given patients in the state hospitals. Many advances through specific programs benefiting the patient directly and indirectly have occurred.
- Governor John M. Dalton has given wholehearted support to progress in the mental health field in Missouri; and through the Central Office, state-wide leadership and direction in the mental health program have been supplied.
- A program of placement of patients in suitable nursing homes, where their complete care can be continued, has been operating successfully for several years.
- The Interstate Compact for return of nonresident patients to their home states has been established.
- Psychiatric traveling teams have been serving many communities throughout the state as an extension of the service performed by the state hospitals.
- Under the leadership of the Acting Director, Dr. George A. Ulett, the past year has seen many improvements inaugurated and extensive plans for the future developed. All are aimed at making Missouri's Mental Hospital system as modern and forward-looking as possible.
- Central purchasing of drugs and other supplies has already brought about substantial savings.
- A central reimbursement program, utilizing the latest electronic equipment, will, it is believed, bring about increased equities and efficiencies in making collections for patient care throughout the hospital system.

(Continued on page 280)



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he outstanding effectiveness and record of safety with which iltown relieves anxiety and anxious depression—the type of epression in which either tension or nervousness or insomnia a prominent symptom — has been clinically authenticated ime and again during the past seven years. This, undoubtdly, is one reason why physicians still prescribe meprobamate nore often than any other tranquilizer in the world.

Miltown®
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Usual dosage: One or two 400 mg. tablets t.i.d.
Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets; bottles of 50. Also as MEPROTABS® — 400 mg. *unmarked,* coated tablets; and in *sustained-release* capsules as MEPROSPAN®-400 and MEPROSPAN®-200 (containing respectively 400 mg. and 200 mg. meprobamate).

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Clinically proven in over 750 published studies

1 Acts dependably — without causing ataxia or altering sexual function

2 Does not produce Parkinson-like symptoms or liver damage

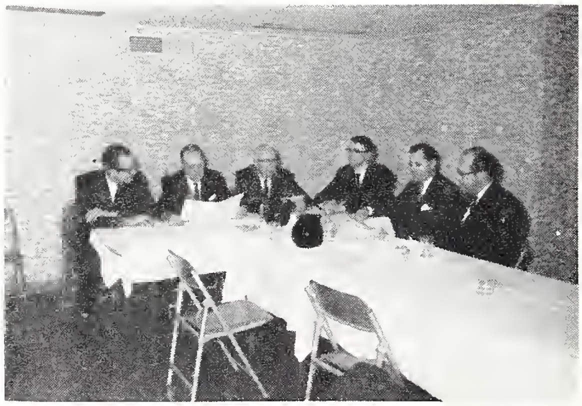
3 Does not muddle the mind or impair physical activity

CM-7972

C. G. STAUFFACHER, M.D., Secretary

Missouri Academy of General Practice

A meeting of the Education Committee of the Missouri Academy of General Practice was held in Jefferson City on Sunday, December 16, for the primary purpose of planning the 1963 scientific program for the Annual Assembly on October 26 and 27, of the Missouri Academy at the Muehlebach Hotel in Kansas City. A similar format for the scientific program, as used during the last few years, was agreed upon. This entails the holding of four symposiums; one Saturday morning, October 26; one Saturday afternoon; one Sunday morning, October 27; and one Sunday afternoon. Each symposium will be concluded with a panel discussion using questions from the audience generated from the formal presentations during the symposiums. Moderators will handle the questions for each panel. The symposium for Saturday morning, October 26, will be entitled "Physical Medicine and Rehabilitation." Saturday afternoon the symposium will be on "Eye, Ear, Nose and Throat Problems." The Sunday morning symposium will be on "Neurology" and Sunday afternoon will present a symposium on "The Management of Related Medical-Surgical Problems." Various members of the Education Committee have been assigned to specifically develop one of the four symposiums, from the standpoint of recommending both instate and outstate speakers and subjects.



Drs. Ladd, Gunn, McCraw, Karraker, Hamlin and Tanner remain at Education Committee meeting after Drs. Stelmach and McNew had left.

A meeting of the Board of Directors of the MAGP was held in Jefferson City on Sunday, January 27, in spite of the icy grip of old man winter. An excellent audience of both members, officers and committee chairmen was on hand. Dr. C. G. Stauffacher, Secretary-Treasurer of the Academy, presented a financial report of the year 1962 showing that the Academy is in sound financial condition. Dr. C. A. McBurney, Chairman of the Medico-Legal Committee, discussed the idea of a Good Samaritan law for the State of Missouri and stated that two bills have recently been introduced in this respect into the Missouri Legislature. The board went on record as approving in principle Good Samaritan type legislation but directed the Medico-Legal Committee to study the bills now pending before specific approval is given by the Academy to any specific bill.

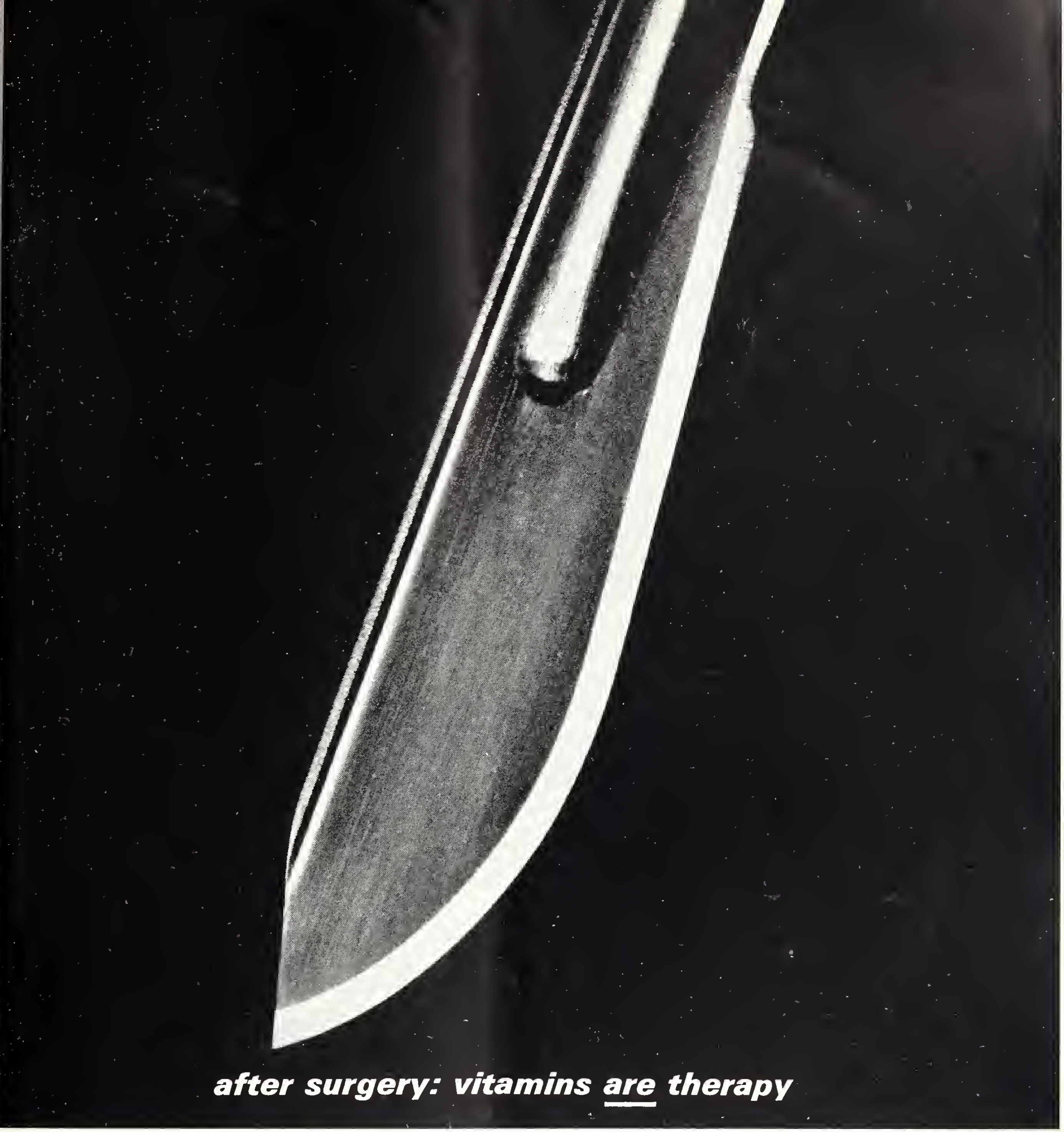
A report of the Committee on National Defense was given by Dr. Carl Siegel of Sedalia. He discussed particularly the promotion of the courses being set up over the state in self-help through the use of self-help kits which are being distributed through district public health offices.

Dr. Barney Finkel, Chairman of the Publication Committee, reported on *The Missouri Family Doctor* and stressed the need for assistance on the part of the membership in helping to secure additional advertising.

A report of the Education Committee as given at the beginning of this page was presented and approved by the Board. The Education Committee also recommended reelection to membership a number of members on the basis of satisfactory study credit reports recently submitted. The Membership Committee presented three new applications for active membership. These

The Board meeting had a good attendance.

(Continued on page 298)



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Each capsule contains:	
Vitamin B_1 (Thiamine Mononitrate)	10 mg.
Vitamin B_2 (Riboflavin)	10 mg.
Niacinamide	100 mg.
Vitamin C (Ascorbic Acid)	300 mg.
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Vitamin B_{12} Crystalline	4 mcgm.
Calcium Pantothenate	20 mg.

Recommended intake: Adults, 1 capsule daily, or as directed by physician, for the treatment of vitamin deficiencies.

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Woman's Auxiliary

Time is a fleeting thing. It seems but yesterday that I took up my pen to write these pages and to begin my year as your state President. Much has transpired to make me proud and yet humble to have had this honor to serve the Auxiliary, and to have enabled me to feel your warm clasp of friendship, your cordial hospitality and that indefinable glow which stems from the rapport of spirit which so characterizes the relationship of Missouri's doctors' wives.

Mrs. J. Martyn Schattyn

We convene in a few weeks, March 24-27, for our Annual Meeting, at the Hotel Muehlebach in Kansas City, where you will install delightful Mrs. Lawrence S. Crispell of Jasper County to chart your course for the coming year.

When Jane Wade turned to me last year to relinquish the gavel I must admit I uttered a silent supplication for strength and guidance. My prayers were answered, for all around I found strength through your faith in the future of the Auxiliary and guidance from Jane Wade and all the wonderful past presidents who have gone before. With great sincerity I say to everyone a grateful "Thank You" for your trust and love. Words seem inadequate at a time like this. I hope, as the years unfold, that in some small way, I can still be of service to you. Perhaps in this fashion I can fulfill my obligation to you and make you understand the depth of my appreciation.

Our lovely national President, Mrs. William G. Thuss, Birmingham, Alabama, will be with us in March to speak at our Monday luncheon. Her graciousness and charm will captivate all of you, I am sure, as it has done me. Louise Thuss is a dedicated and inspiring person and we are overjoyed that she will be with us.

The path of organized medicine has been a rugged one this last year, and the future looks just as rugged. Let us pledge ourselves to stand firm in our beliefs. It may well be that if our fight for freedom and individual responsibility comes to naught that other bastions of self determination will tumble after us, one by one. We have a civic duty to uphold our ideals and to fiercely resist the inroads of socialism.

Our program this year has been geared to our National President's theme—"Aim for Excellence in Achievement." It was most heartening as I traveled from Auxiliary to Auxiliary across the state to see the earnestness and dedication of our members. No matter what the odds, every effort was being made to further our program and to serve the medical profession.

Profound thanks for much able advice and assistance are due the staff of the Missouri State Medical Association. Tom O'Brien, Helen Penn, Ray McIntyre and Tom Fox were always ready and eager to help at every turn. We are equally indebted for guidance to our wonderful state Medical Association President, Dr. Donald M. Dowell, and to the other Medical Advisors, Dr. Arthur W. Neilson, Dr. Durward G. Hall, Dr. Maurice A. Diehr and Dr. Frederick E. Wade. It was comforting to know that we had such able men to whom to turn in time of need, and I extend to each my deepest appreciation.

At our Tuesday luncheon during convention it will be my happy duty to place the gavel in the hands of Jane Crispell of Joplin. Within that tiny frame is a most remarkable person. She is vivacious and utterly charming, but this cannot hide her great capabilities and complete understanding of the meaning of Auxiliary. We can all look confidently to the year ahead, for the continuity of our projects with Jane Crispell's leadership is assured.

Shakespeare wrote, "Parting is such sweet sorrow. . . ." And so it is with me. To have served you has been an honor and a privilege. To have deserved your friendship has been my most earnest desire. I can wish nothing more wonderful for Jane Crispell than that she, too, shall have your support, your loyalty and your love.

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Missouri Medicine

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SEYMOUR BROWN, M.D., ***St. Louis***

Anesthetic Management of the Surgical Diabetic Patient

Premedication, anesthetic agents and technics and the postoperative care of the diabetic patient under anesthesia are discussed.

Dr. Brown is Director of Anesthesiology, St. John's Hospital, St. Louis; Assistant Professor of Clinical Surgery, St. Louis University School of Medicine, and Area Consultant in Anesthesiology, Veterans Administration.

The paper was presented at the Pittsburgh Society of Anesthesiologists in Pittsburgh, Pa., in June 1962.

Much is known about diabetes mellitus, but the disease still is not understood. Hundreds of articles on diabetes are listed yearly in the *Index Medicus,* excluding basic articles pertaining to diabetic research. Graef notes that a severe disturbance of lipid metabolism is associated with "malignant vascular diabetes" (a condition characterized by disability or premature death involving nephropathy and retinopathy that progress at a rate independent of the disturbance of carbohydrate metabolism).[1] A few depancreatized patients have survived 10 years and have shown a true insulin deficient diabetes despite the administration of exogenous insulin. "Whether or not . . . diabetogenic hormones play any role in the vascular complications or the onset of diabetes in otherwise normal or even genetically susceptible subjects is speculative."[1] Partially depancreatized animals and diabetic patients may require more insulin than totally depancreatized animals and human subjects.[2] There is some possibility that the effects of endogenous insulin may be different from those of exogenous insulin.[3] In post maturity onset diabetes retinopathy occurs with no insulin deficiency. Diabetic neuropathy may occur independent of the degree of control of carbohydrate metabolism and is certainly influenced by lipid and protein metabolism.[4b]

Steinke, et al., question the relationship of insulin, insulin antagonists and ketosis because considerable quantities of circulating insulin may be present in early juvenile diabetic persons and various tissues may have different requirements for insulin.[5] It is interesting that the central nervous system does not require any insulin for carbohydrate metabolism.[6]

The fact that the increasing knowledge of the care and treatment of the diabetic patient has prolonged the longevity of the average patient by 15 to 20 years,[7] that three fourths of all diabetes emerges after the age of 40 years, and that a recent study showed that 87 in 100 diabetic pregnant females now deliver living children shows the increasing importance of this disease in the future.[8] Skillful treatment with insulin and diet and modern advances in operative technic, anesthesia, fluid and electrolyte balance, and antibiotic therapy have virtually eliminated the former conditions of starvation, acidosis, and infection that led to a high operative mortality among diabetic patients.[9]

The greatest difficulty in administering anesthesia to these people is the increased incidence of complications relative to premature vascular degeneration, which may be reflected in several systems. In the young patient it is usually seen in retinal and advanced renal changes, although a similar syndrome occurs in approximately 60 per cent of diabetic persons in the sixth to the seventh decade of life (Kimmelstiel-Wilson's disease). It is the third leading cause of blindness in the United States.[4a] Heart disease is the leading cause of death in the diabetic patient and occurs at an earlier age than in the nondiabetic patient with about twice the incidence. Peripheral vascular, cardiovascular and cerebrovascular occlusive events with serious complications are more frequent in diabetic patients at an earlier age although the latter complication is not particularly increased in elderly patients. Diabetic patients may be affected by any disease but there are certain surgical conditions, such as gangrene, cholecystitis and cholelithiasis, which occur more frequently.[10]

In order to understand the problem involved in the pathophysiology of metabolism in diabetes mellitus it is necessary to have at least a superficial knowledge of normal carbohydrate metabolism. Tracer studies indicate that 67 per cent of the total glucose metabolized daily is oxidized to carbon dioxide and water; 30 per cent is converted to fatty acids via pyruvic acid; and 3 per cent is converted to glycogen. The daily derivation of this glucose is estimated as 65 per cent of dietary origin, 32 per cent from gluconeogenesis and 3 per cent from glycogen.[11] The conversion of glucose to glucose-6-phosphate may be reversed in the liver by a specific phosphatase, but this does not occur in muscle where this enzyme is lacking. Hence, liver glycogen may serve directly as a source of blood sugar, but muscle glycogen cannot.[10]

In figure 1, sites of metabolic slowing (bars) and acceleration (heavy arrows) indicate the pathologic effects of diabetes mellitus on metabolism to be:

1. Decreased glucose utilization by peripheral tissues and liver.
2. Decreased incorporation of acetate into fatty acids.
3. Decreased ability to synthesize phospholipids.
4. Increased catabolism of protein (to amino acids) and fat (to ketone bodies).

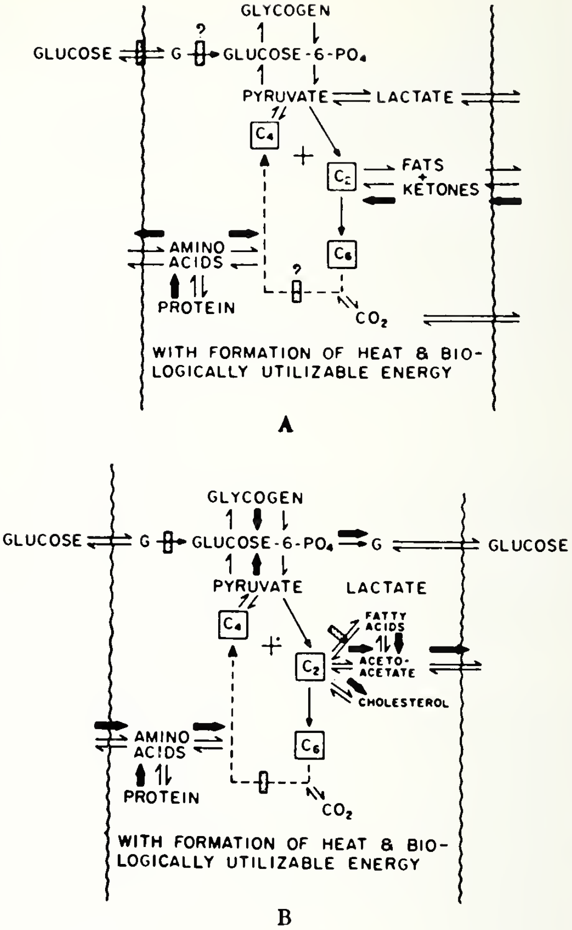

Fig. 1. Schematic representation of intermediary metabolism in diabetes. (A) Periphery, e.g., muscle; (B) liver. By permission of publishers (McGraw-Hill) and authors (G. W. Thorn, M.D., and Peter Forsham, M.D.) from Principles of Internal Medicine, T. R. Harrison, 3rd ed. fig. 109, page 608.

5. Increased gluconeogenesis.[10]

The influence of endogenous endocrine hormonal agents in this problem is outlined in the schematic representation by Sherry (fig. 2).[12] The thyroid hormone increases the rate of absorption across the intestinal mucosa and accelerates the oxidative actions within the cell. Gluconeogenesis is stimulated by the C_{11} steroids. As an example cortisone decreases new tissue formation and diverts protein into carbohydrate. A hormone of the anterior pituitary gland, not ACTH, acts directly antagnostic to insulin as does adrenal cortical extract. The activity of the pituitary also influences the secretions of the adrenal and thyroid gland.[12] The reaction by which glucose-1-phosphate is in equilibrium with glycogen and inorganic phosphate, is markedly affected by two hormonal agents, epinephrine and the hyperglycemic factor of the pancreas,

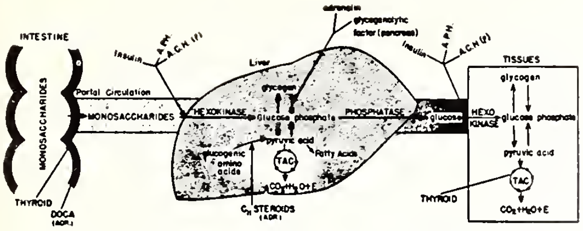
INTESTINE
MONOSACCHARIDES
Portal Circulation
MONOSACCHARIDES
THYROID
DOCA
(ADR.)
Insulin
A.P.H.
A.C.H (?)
Liver
adrenalin
glycogenolytic
factor (pancreas)
glycogen
HEXOKINASE
Glucose phosphate
PHOSPHATASE
glucose
pyruvic acid
glucogenic
amino
acids
Fatty Acids
TAC
CO_2+H_2O+E
C_{11} STEROIDS
(ADR.)
Insulin
A.P.H.
A.C.H (?)
TISSUES
glycogen
HEXO
KINASE
glucose phosphate
pyruvic acid
TAC
THYROID
CO_2+H_2O+E

Fig. 2. Hormonal control of carbohydrate metabolism (schematic). By permission of the author Sol Sherry, M.D., fig. 4, "Current Concepts of Diabetes," Bull. N. Y. Acad. Med. 29:202, 1953.

both causing rapid resynthesis of active forms of the phosphorylase which in the presence of increased concentration of inorganic phosphate accelerates conversion of glycogen to phosphorylated glucose.[10]

The role and site of action of insulin are believed to be: (1) facilitation of initial phosphorylation of glucose to glucose-6-phosphate with glucokinase as the enzyme and secondary effects of formation of fat from carbohydrate fragments and protein synthesis from amino acids; (2) alteration of permeability of the cell membrane to permit more rapid transfer of glucose across it; (3) increase of efficiency of formation of A.T.P.-high energy bond phosphate involved in these and the tricarboxylic acid cycle reactions. These effects of insulin apply to all sugars that share the same configuration as d-glucose. D-fructose is phosphorylated and oxidized in the absence of insulin but there is a definite accumulation of lactic and pyruvic acids and there is minimal formation of fatty acids from carbohydrate fragments.[10]

As glucose enters the metabolic pool the accumulation of phosphorylated derivatives leads to a decline of the inorganic phosphate content of extracellular fluids. This later returns to normal as glucogen is formed or as the phosphorylated compounds are disposed oxidatively. Less in degree, but more prolonged, is the decline in potassium content of extracellular fluid. This is partly accounted for by fluid of intracellular electrolyte composition accompanying glycogen deposited in the liver and muscles, or by such fluid accompanying new proteins whose formation partly involves amination of carbohydrate residues. Extracellular fluid is part of the reservoir of the water and electrolytes required. Thus, proper hydration with normal volume and composition of extracellular fluid is necessary if utilization of carbohydrates is to proceed normally. With deficiency of sodium chloride and water the insulin required to facilitate glycogen utilization may be greatly increased. Severe losses of fixed base are almost always accompanied by decreased carbohydrate utilization with resultant ketosis.[10]

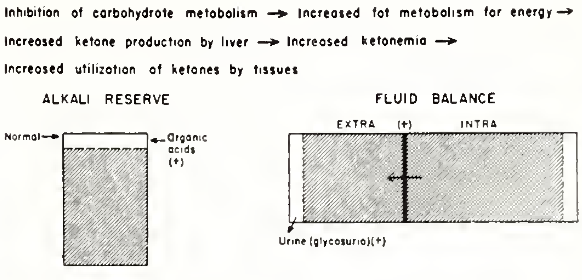
Inhibition of carbohydrate metabolism → Increased fat metabolism for energy →
Increased ketone production by liver → Increased ketonemia →
Increased utilization of ketones by tissues
ALKALI RESERVE
FLUID BALANCE
Normal
Organic acids (+)
EXTRA (+) INTRA
Urine (glycosuria)(+)

Fig. 3. Pathogenesis of diabetic ketosis. Step 1.

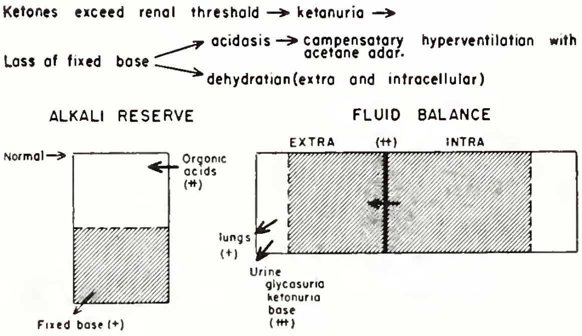
Ketones exceed renal threshold → ketonuria →
Loss of fixed base
acidosis → compensatory hyperventilation with acetone odor.
dehydration (extra and intracellular)
ALKALI RESERVE
FLUID BALANCE
EXTRA (++) INTRA
Normal
Organic acids (++)
lungs (+)
Urine
glycosuria
ketonuria
base
(++)
Fixed base (+)

Fig. 4. Pathogenesis of diabetic ketosis. Step 2.

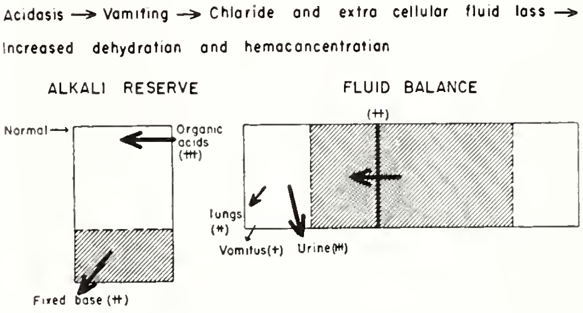
Acidosis → Vomiting → Chloride and extra cellular fluid loss →
Increased dehydration and hemoconcentration
ALKALI RESERVE
FLUID BALANCE
(++)
Normal
Organic acids (++)
lungs (+)
Vomitus (+)
Urine (++)
Fixed base (++)

Fig. 5. Pathogenesis of diabetic ketosis. Step. 3.

When the production of ketone bodies is abnormally great, as in uncontrolled diabetes, they are poured into the blood at a rate which exceeds the ability of the tissues to oxidize them. The excess accumulates and is excreted in the urine. The ketone bodies (β-hydroxybutyric acid with degradation products, acetoacetic acid and acetone) combine with base in tissue fluids to form salts and deplete the alkali reserve of the body. The loss of base causes a marked reduction in the carbon dioxide combining power of the blood plasma and loss of fluids, further intensifying the acidosis and setting up a vicious cycle. Dehydration is aggravated by the hyperglycemia which caused glycosuria. The normal ketone level in the blood is rarely in excess of 2 mg. per 100 cc. and the normal urinary excretion is usually less than 500 mg. in 24 hours. In diabetic ketoacidosis blood ketone levels as high as 370 mg. per 100 cc. and 7,500 mg. in 24 hour urine specimens have been reported.[13]

In an occasional case energetic treatment of diabetic acidosis may itself contribute to a fatal outcome. In these cases death usually occurs about eight to 16 hours after initial therapy, at a time when ketogenesis has been arrested, hyperglycemia corrected and hydration restored. This may be related to the fact that electrolytes lost in quantity during diabetic acidosis include sodium, magnesium, calcium, chloride, potassium and phosphorus with the loss of the potassium and phosphorus increasing during reconstitution. Sprague showed that serum determinations of potassium and phosphorus are usually normal or elevated before institution of treatment. However, as both of these ions are mainly intracellular and are intimately related to carbohydrate and protein metabolism, there is a marked lowering of serum concentration within four to 10 hours as reconstitution proceeds. In addition, dilutional effects occur in the serum and some urinary loss continues to occur during the treatment phase. These effects indicate that proper amounts of potassium and possibly phosphorus should be administered to compensate for these losses.[14]

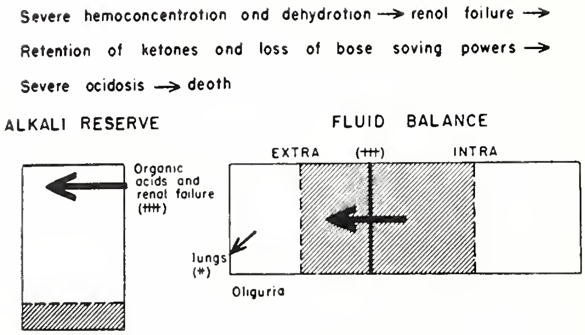
Severe hemoconcentration and dehydration → renal failure →
Retention of ketones and loss of base saving powers →
Severe acidosis → death
ALKALI RESERVE
FLUID BALANCE
EXTRA
(+++)
INTRA
Organic acids and renal failure (++++)
lungs (+)
Oliguria

Fig. 6. Pathogenesis of diabetic ketosis. Step 4. (Figs. 3, 4, 5 and 6 are by permission of the author Sol Sherry, M.D., figs. 5, 6, 7 and 8 in "Current Concepts of Diabetes," Bull. N. Y. Acad. Med. 29:202, 1953.)

Preparation of the Diabetic Patient

Patients whose diabetes mellitus is controlled by diet or by a combination of insulin therapy and diet present few problems other than the presence of possible organic complications described previously. In the occasional patient who comes for elective surgery, presenting the problem of mild or uncontrolled diabetes, every effort should be made to evaluate and treat the condition before an operation is attempted. There should be no ketosis; the hydration must be adequate; and electrolyte and blood volume changes should be minimal.[15] The preoperative diet for the elective surgical patient is in most cases his usual diabetic diet. Insulin administration preferably should be based on the previously determined requirements of the individual patient. If the patient is on a diabetic diet or diet with oral anti-diabetic medication, these should be continued preoperatively although it may be necessary for a short time to put the patient on regular insulin postoperatively. It is advisable to schedule the operation early in the morning so that a long fasting period will be avoided or else give parenteral fluids covered by insulin. The postoperative regimen is planned to avoid dehydration and ketogenesis.[13]

Some authors give the entire daily insulin requirements preoperatively, others give only a portion; and, Barach gives none except postoperatively. Shapiro gives protamine zinc insulin whereas Duncan and others suggested equally divided feedings and regular insulin. My usual preoperative orders are one half the amount of the previous daily prolonged insulin dosage with 20 units regular insulin given intravenously to cover each 50 gm. of glucose administered during the operation. Absence of glycosuria is neither necessary nor, indeed, wholly desirable. Joslin believes that an over vigorous attempt should not be made to get the patient sugar free during infections and either before or after operation. Where hypoglycemia imposes a serious risk as in myocardial infarction, glycosuria need not be an indication for increased insulin dosage.[13]

Chlorpropamide, tolbutamide, methohexamide and phenethyl biguanide vary in potency and cumulative effect, and insulin dosage should be decreased accordingly in their presence. Slow excretion and accumulation of daily administration produces an ameliorative effect on diabetes in from 50 to 80 per cent of cases but generally little in severe adult or in juvenile diabetes. The probable machanism is the stimulation of the islet cells of the pancreas with release of endogenous insulin and possibly a reduction in action of liver insulinase. The refractoriness in juvenile diabetes and mature severe diabetic patients may be explained by the former having beta cell lesions in the pancreas with low insulin content whereas the latter may have only 50 to 60 per cent of their normal pancreas present. In certain elderly and even in young diabetic persons, oral sulfonylurea therapy carried on several weeks may cause remission lasting several months. One hypothesis is that stimulation and partial regeneration of the endocrine pancreatic system may occur.[16] Recent work indicates that sodium salicylate has definite depressive effects on blood levels of glucose and cholesterol.[17]

Premedication and Anesthesia Problems

The greatest specific problem during the administration of anesthesia for diabetic patients is the avoidance of acidosis. This may occur as a result of CO_2 retention; hypoxia either through respiratory depression, hypotension or obstruction; or through the direct effect of the anesthetic agent used. Proper fluid and electrolyte therapy during and after the operation cannot be overstressed.

The dosage of narcotics, barbiturates and belladonna drugs should be especially evaluated in the diabetic patient as they are more prone to respiratory depression with resultant carbon dioxide accumulation and possible hypoxia. Morphine narcosis may cause an elevation of blood glucose levels and less significant changes occur during avertin and barbiturate narcosis depending upon the depth of anesthesia or duration.

The influence of the various anesthetics on carbohydrate metabolism should be kept in mind and other things being equal the agent causing the least change should be employed. The generalization may be made that ether, ethyl chloride, vincthene and chloroform cause a rise in fasting blood sugar, a rise in blood pyruvate and a diminution in liver glycogen. Cyclopropane, nitrous oxide, ethylene, sodium pentothal, spinal and local anesthesia are accompanied by little or no significant changes in the blood glucose unless these are complicated by hypoxia.[18] Cyclopropane has no significant effect on fasting blood sugar, but does diminish glucose tolerance and cause a rise in blood pyruvate.[19] Sodium pentothal interferes less with carbohydrate metabolism than does cyclopropane or spinal but prolonged pentothal anesthesia markedly decreases liver glycogen in dogs and severely taxes liver function as measured by bromsulphalein excretion.[20] Fluothane has demonstrated some temporary depression of hepatic function in bromsulphalein tests but only minimal interference with carbohydrate metabolism.[21] Fluomar has no specific effect on glucose metabolism although some temporary liver function depression occurs.[22] Penthrane shows definite rise in blood sugar, 11 per cent to 78 per cent, in severe cases with temporary liver depression (bromsulphalein) similar to ether.[23]

Spinal anesthesia diminishes glucose tolerance less than cyclopropane and slightly more than pentothal sodium. However, one should remember that the respiratory and cardiovascular effects of a high spinal may result in an acidosis due to hypoxia. Infiltration block anesthesia is far from ideal in that apprehension, inadequate relaxation and short action may occur, and the reparative processes of the tissues may be impaired. Although it has been shown that blood sugar under the influence of insulin is little affected by mild hypoxia, it is known that ether and the acidotic states do antagonize the efficiency of insulin. Cryroanesthesia for gangrenous extremities may be especially useful for gaining time for control of diabetic acidosis and cardiac decompensation in the elderly arteriosclerotic patient.

Complications

It is well to remember that insulin shock may develop during the administration of anesthesia and not be recognized due to the atypical manifestations. Papper and his coworkers produced insulin shock in an experimental study by using large doses of insulin during pentothal or cyclopropane anesthesia, observing modified to profuse sweating, tachycardia, fall in diastolic pressure and Corrigan type pulse.[24] However, Guild and Lorhan reported only that the anesthetic requirements under sodium pentothal and nitrous oxide anesthesia were small until intravenous glucose was administered (blood sugar, 26 mg. 25 per cent).[25] Peterson, et al., reported two cases during spinal anesthesia who exhibited only signs of increased pulse pressure, relative bradycardia and stupor. Both showed low blood sugar levels and revived immediately upon administration of glucose.[26] Clinical observation in a number of patients indicates that considerable potentiation of insulin action with resultant hypoglycemia occurs with use of hexamethonium bromide as a hypotensive agent during anesthesia. Whether thiphanium chloride is also implicated was not reported.[27] There are indications that insulin action during hypothermic states is decreased. [28, 29]

Summary

Use minimal doses of drugs for premedication in order to avoid depression and hypoxia. Anesthetic agents and technics should be chosen

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J. H. HILL, M.D., ***Kansas City***

Evaluation of a Serologic Pregnancy Test

A new serologic pregnancy test is described and comparison of this test with frog and rabbit tests in 111 women is reported.

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This report compares the results of a new serological test with the frog or rabbit test for early pregnancy in 111 women. A reliable serologic test for early pregnancy is desirable in view of the decreased sensitivity of the frog test in summer, the time required for completion of the rabbit test and the nuisance of obtaining and maintaining animals.

Method

The serologic test was performed according to the directions supplied by the manufacturer of the antihuman chorionic gonadotropin (AHCG) serum. The basis of the test was whether or not sufficient chorionic gonadotropin was present in urine or serum to neutralize the AHCG serum (Ortho pregnancy test antiserum). Neutralization was determined by failure of the antiserum to agglutinate latex particles coated with human chorionic gonadotropin. Agglutinated particles were easily sedimented by mild centrifugation. Excessive centrifugation naturally sedimented unagglutinated particles and was to be avoided. In this study centrifugation was carried out in an Adams Sero-fuge which had an effective radius of about 7 cm. and a speed according to the manufacturer of about 3,400 r.p.m.

For the frog tests a 100 ml. aliquot of urine of at least specific gravity 1.010 was treated with kaolin from which the hormone was eluted, concentrated into 5 ml. of volume and half the amount injected into each of two male Rana pipiens frogs, first assuring the absence of sperm. When serum was used, 1 ml. was injected per each 10 gram weight of frog with 1 ml. hyaluronidase solution 150 T R unit/ml. For the Friedman tests the rabbits were injected either intravenously or intramuscularly with 12 ml. of serum or 20 ml. of urine of specific gravity 1.020 or more.

The specimens were tested as part of the routine work of the department by various members of the medical technology staff. Sometimes the serologic and biologic tests were made by the same person. The frog test was performed 95 times and the Friedman test 16 times. In 34 instances blood serum was tested instead of urine.

Results

In 97 of the 111 women there was complete agreement between the results of the two types of tests. Of the 43 instances in which both were positive, 13 were with serum and in 40 frogs were used. Of the 54 instances in which both were negative, 18 tests were done on serum and 48 were frog tests. In six instances the serologic test was correctly positive and the biologic test wrongly negative. Follow up studies revealed three of these women were in the very early days of pregnancy and the other three women were undergoing miscarriages. In four other instances the serologic tests were wrongly positive and the biologic tests were correctly negative; all tests were on urine and the rabbit was the test animal in three instances. When retested a day later, two of the four women then had correct negative serologic test results; the other two women could not be retested but had not been pregnant as nearly as anyone could determine. In the four other instances of disagreement, neither retesting nor follow up could be accomplished. One woman may have been pregnant at the time of the test since on follow up she refused to divulge what her pregnancy status had been at that time. Only a single negative serologic and positive biologic test result was found.

Discussion

The finding that the serologic test was more sensitive than the biologic tests in six instances was unexpected. Disagreement between the results of pregnancy tests and the pregnancy status of the patient may well occur when the women are in the very early days of pregnancy or when they are miscarrying, since blood and urine gonadotropin levels are low. This was evidently the explanation for the six correct positive serologic result and the false negative biologic test results. The four positive serologic test results in the four women known not to be pregnant were probably due to inexperience in estimating the turbidity which determines the results of the serologic test. Of particular interest was the occurrence of only one false negative serologic test result. Even better agreement between the two types of tests would be obtained if one omitted from the calculations the four women who could not be followed or retested and the two women who were followed but who could not be retested. The technic of the serologic test was simple but strict attention to correct centrifugation was essential. The element of unconscious bias could not be altogether eliminated since the two kinds of tests were sometimes done by the same person. Parallel testing in different laboratories would have been preferred but this was not possible. The ideal pregnancy test for routine use would be one measuring quantitatively the gonadotropin concentration.

Conclusion

A new serologic pregnancy test compared favorably with the frog and rabbit tests. The results of the serologic and biologic tests agreed in 97 of 111 women tested. The pregnancy status and results of the serologic test agreed in 103 instances. Of the eight women who had conflicting test results, only one had a false negative serologic test result; four of the women could not be followed, two others had correct negative serologic test results on retesting and one woman had probably been pregnant. The serologic test appeared more sensitive than our biologic tests in six instances.

The AHCG serum (Ortho pregnancy test serum) was provided by the manufacturer, the Ortho Pharmaceutical Corporation, Raritan, New Jersey.

Mr. Merle Swanson, B.A., M.T. (ASCP), assisted in collection of the data.

ANESTHETIC SHOCK

(Continued from page 237)

primarily for the rapid and successful conduct of the operation with the effect on the diabetes being a secondary consideration. Adequate preparation of the patient should be made relative to control of acidosis, dehydration, electrolyte imbalance and blood volume deficiency before surgery is attempted. Excluding these the main problems will be those of the retinal, renal and cardiovascular complications so frequently accompanying the disease. Avoidance of hypotension, hypoxia, acidosis and hypoglycemia during operation and in the postoperative period is essential. This is facilitated by the use of proper fluids, electrolytes, insulin and transfusion therapy.

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HENRY M. PARRISH, M.D., ***Columbia***

Intravenous Antivenin in Clinical Snake Venom Poisoning

A Preliminary Report

Literature is reviewed and intravenous antivenin is recommended. Four cases in which this method was used are reported.

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POISONOUS snakes killed 138 people in the United States during the ten year period, 1950 to 1959.[1] Although reliable statistics are not available, it is likely that about 2,500 people are bitten by venomous snakes each year in this country. Most contemporary authorities on North American pit viper venom poisoning agree that antivenin should be used for treatment.[2-10] However, some physicians have been reluctant to use antivenin because: (1) they felt the product was not sufficiently potent to neutralize the venom; (2) they believed that incision and suction of the wound would remove most of the venom, and (3) they feared anaphylactic shock and serum sickness as possible complications of horse serum therapy. Antivenin is made from horse serum. Most physicians who use antivenin advocate the subcutaneous and the intramuscular routes of administration. Intravenous administration of antivenin has not received much attention in this country.

The purpose of this study is to report the successful use of intravenous antivenin in clinical snakebite treatment and to review experimental evidence to support this route of administration.

VENOMS

The poisonous snakes of most medical importance in the United States are all pit vipers. They account for about 98 per cent of all poisonous snakebite accidents in this country. The genera of pit vipers indigenous to the United States are: (1) *Crotalus,* or rattlesnakes; (2) *Ancistrodon,* or moccasins—including the cottonmouth moccasin and the copperhead moccasin; and (3) *Sistrurus,* or pigmy rattlesnakes. Coral snakes are the only other poisonous snakes native to this country. Rattlesnakes *(Crotalus sp.)* are responsible for at least 77 per cent of the snakebite fatalities, 90 per cent of those in which the species was identified.[11]

Snake venoms are composed primarily of complex proteins.[12, 13] There are many toxic components of snake venoms including proteases, phosphatidases, neurotoxins, cardiotoxins, hyaluronidase and cholinesterases. Proteases produce local tissue destruction and destroy the endothelium of capillary vessels. They also may alter the blood coagulation mechanism by either inhibiting or accelerating coagulation. Phosphatidases cause hemolysis of red blood cells, affect the heart and produce lung hemorrhages. Neurotoxins may cause motor and respiratory paralysis. Hyaluronidase and other "spreading factors" promote dissemination of the venom into the tissues. Both the nonenzymatic proteins and the enzymes (which produce autotoxic substances such as histamine, bradykinin and lysolecithin) contribute to snake venom intoxication. The venoms of North American pit vipers are primarily proteolytic and hematoxic in action, although they do contain some neurotoxins. By way of contrast, coral snake venom is primarily neurotoxic in action.

ANTIVENIN

Although Sewall[14] of the University of Michigan demonstrated in 1887 that immunity could be produced in animals with repeated small doses of rattlesnake venom, antivenin did not become available in this country until about 1926. The Antivenin Institute of America collected reports of snakebite cases in Texas from 1926 through 1928. Amaral[15] reported that from July 1926 to June 1927, 23 (34 per cent) of 67 snakebite victims who did not receive antivenin died; whereas only five (6 per cent) of 83 cases to whom antivenin was given died. Hutchison[16] in reviewing snakebite cases for 1928 found that

18 (11 per cent) of 175 cases in which antivenin was not used died, but only 13 (3 per cent) of 433 cases in whom antivenin was used died. There been no large clinical studies of antivenin therapy in this country since those of Amaral[15] and Hutchison.[16] These studies were not carefully designed, controlled or analyzed. Some of the shortcomings of these studies are: (1) no attempt was made to randomly select who would and who would not receive antivenin; (2) the cases were not classified according to the severity of envenomation; (3) the interval of time from the bite to the time of treatment and the kinds of treatment used were not recorded for the no-antivenin group of patients, and (4) multiple types of therapy, including incision and suction, were used in most of the patients who received antivenin. Other limitations of clinical studies in evaluating snakebite therapy have been outlined by Minton[17] and Parrish.[18]

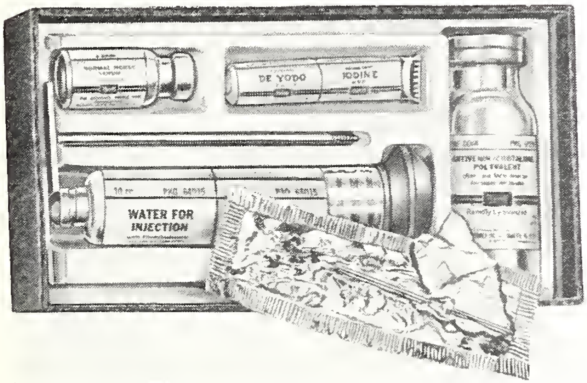

Fig. 1. A package of "Antivenin (Crotalidae Polyvalent)," Wyeth, which provides protection against North and South American pit vipers. Each package contains one vacuum vial to yield 10 cc. of serum; one disposable syringe containing 10 cc. of water for injection; one applicator vial of tincture iodine, U.S.P.; one 1 cc. vial of normal horse serum (diluted 1:10) as sensitivity testing material, and one sterile double end needle.

Snakebite antivenin has undergone several modifications since it was first introduced into this country. Minton[17] tested an older antivenin product, "Antivenin (Nearctic Crotalidae) Polyvalent," Wyeth, against the venoms of eight species of North American pit vipers. He found the antivenin afforded some protection against the venoms of four rattlesnake species but offered no protection against the venoms of the eastern diamondback rattlesnake *(C. adamanteus)*, the western diamondback rattlesnake *(C. atrox)*, the copperhead *(A. contortrix mokeson)* and the cottonmouth moccasin *(A. piscivorus spp.)*. However, Andrews and Pollard[5] found that this same older antivenin preparation did afford protection against the venoms of the eastern and western diamondback rattlesnakes. Since then antivenin in this country has received additional modifications and improvements.

The only snakebite antivenin currently manufactured in the United States is produced by Wyeth Laboratories, "Antivenin (Crotalidae) Polyvalent," North and South American Antisnakebite Serum.[13] This antivenin is effective in treating the bites of all pit vipers found in the United States. It is not recommended for treating coral snake bites. Criley[19] states that this antivenin is made from a formula composed of four venoms—*C. atrox, C. adamanteus, C. terrificus* and *B. atrox*—which contains the basic antigens of all crotaline venoms. Minton,[27] using the agar diffusion technic, found that rattlesnake venoms are composed of at least four to seven antigenic fractions and that they share one or more antigens with the venoms of North American moccasins, *Ancistrodon*. Moreover, Minton found that "Antivenin (Crotalidae) Polyvalent," Wyeth, was polyvalent against the venoms of all 14 species of rattlesnakes he tested. The ability of this antivenin to neutralize all venoms of the family Crotalidae and methods of testing its potency have been described by Gingrich and Hohenadel.[20] Studies by Fischer, et al.[3] and Ya and Perry[4] provide confirmation of the potency of Wyeth's antivenin in preventing death and local tissue necrosis in animals poisoned with eastern diamondback rattlesnake *(C. adamanteus)* venom.

CASE REPORTS

The following modification of Wood, Hoback and Green's[21] clinical classification of North American pit viper venenations was used to determine the severity of bites.

Grade 0—*no venenation.* Fang or tooth marks, minimal pain, less than 2.5 cm. of surrounding edema and erythema and no systemic involvement.

Grade I—*minimal venenation.* Fang or tooth marks, moderate pain, 2.5 to 15 cm of surrounding edema and erythema in the first 12 hours after the bite and no systemic involvement.

Grade II—*moderate venenation.* Fang or tooth marks, severe pain and 15 to 30 cm. of surrounding edema and erythema in the first 12 hours after the bite, with systemic involvement—nausea, vomiting, giddiness, shock or neurotoxic symptoms present.

Grade III—*severe venenation.* Fang or tooth marks, with severe pain, and more than 30 cm. of surrounding edema and erythema in the first 12 hours after the bite, with systemic involvement (as in Grade II).

Case 1. (J. E. F.), a 27 year old professional snake handler, was bitten by a five foot long western diamondback rattlesnake *(Crotalus atrox)* while giving a lecture about snakes. One fang pierced the skin at the base of his right index finger. The patient immediately applied a tourniquet at his wrist and made one incision over the fang puncture. Suction with a Cutter suction cup was used over the incision. The patient was first seen at the hospital 30 minutes after the bite. The index finger was moderately swollen as was the dorsum of the hand down to the base of the thumb. The patient experienced burning pain in the bite area but there were no systemic symptoms. The tourniquet was released and suction was continued for an additional 30 minutes, while the patient was being tested for horse serum sensitivity. The swelling in the hand continued to advance slowly, therefore the patient was given 10 cc. of antivenin diluted in 500 cc. of saline by the intravenous route. The swelling stopped advancing promptly. The patient was admitted to the hospital where additional treatment consisted of tetanus toxoid 0.5 cc. and oxytetracycline HCl 250 mg. four times a day. The patient's vital signs, blood count and urinalysis were within normal limits. He was discharged from the hospital 12 hours after admission. No complications developed. This was a Grade I—minimal venenation.

Case 2. (P. M. C.), a 5 year old white male, was bitten above his right ankle by a 23 inch long copperhead *(Ancistrodon c. mokeson)* when he kicked at the snake while playing in the yard. The boy's mother rushed to her son when she heard him scream. She promptly killed the snake with a stick and rushed the child to the hospital. The boy was first seen 25 minutes after the bite. One fang puncture, surrounded by about 4 cm. of edema, was observed just above the right ankle. Although the child was crying and frightened, there was no evidence of shock or systemic involvement. A tourniquet was applied above the swelling. After a negative skin test for horse serum sensitivity, the tourniquet was removed and 10 cc. of antivenin in 500 cc. of saline was given intravenously. The swelling promptly ceased to advance. The child was admitted to the hospital where additional treatment consisted of tetanus toxoid 0.5 cc., oxytetracycline HCl 125 mg. four times a day, and acetylsalicylic acid as needed for pain. The blood count and urinalysis were within normal limits. The child was discharged 24 hours after admission. No complications developed. This was a Grade I—minimal venenation.

Case 3. (E. L.), a 70 year old Negro female, was bitten on the right thumb by a 15 inch long pigmy rattlesnake *(Sistrurus m. barbouri)* while pulling up watermelon vines in a field. She arrived at the hospital two hours after the bite. A cloth tourniquet was removed from her wrist. The patient complained of pain in her hand and of feeling faint. The patient's blood pressure was 180 systolic and 120 diastolic, and her pulse rate was 100 beats per minute. Two fang punctures were seen on the right thumb and the fingers and hand were swollen to a level just below the wrist. After a negative skin test, the patient received 10 cc. of antivenin diluted in 500 cc. of saline intravenously. The swelling progressed only about 4 cm. from the time antivenin therapy was started. Additional treatment included tetanus antitoxin 1,500 units, oxytetracycline HCl 250 mg. four times a day, and acetylsalicylic acid with codeine 32 mg. as needed for pain. The blood count and urinalysis were within normal limits. The patient was discharged 36 hours after admission. No complications developed. This was a Grade II—moderate venenation.

Case 4. (D. C.), a 15 year old amateur snake collector, was bitten on his right thumb by a four and one-half foot long timber rattlesnake *(Crotalus h. horridus).* The boy was holding the snake while a friend was attempting to photograph it. The snake suddenly wiggled free, turned and struck the boy, injecting two fangs into the dorsum of the thumb. The patient was frightened and did not report the bite to his mother for about 40 minutes. On admission, 70 minutes after the bite, the patient looked pale and was perspiring profusely. He was nauseated and vomited two times. The patient complained of numbness and tingling in the hands, feet and lips. His blood pressure was 90 systolic and 64 diastolic, and his pulse rate was 118 beats per minute. A tourniquet was applied above the swelling which had advanced to a level just above the right wrist. An intravenous infusion of mephentermine sulfate 60 mg. in 1,000 cc. of saline was started and the patient was skin tested for horse serum sensitivity. Approximately 90 minutes after the bite accident an intravenous infusion was started which contained 20 cc. of antivenin diluted in 500 cc. of saline. The swelling of the patient's arm had stopped when the bottle of antivenin solution was emptied. The patient was feeling much better at this time. However, the swelling began to spread further up the arm after about 10 minutes. Therefore, another intravenous infusion containing 10 cc. of antivenin diluted in 500 cc. of saline was given. When this was completed, the swelling did not progress further. It had reached the level of the elbow. The patient was admitted to the hospital. Additional treatment consisted of tetanus toxoid 0.5 cc., 1 gm. of oxytetracycline HCl daily in divided doses, and meperidine hydrochloride 75 mg. as needed for pain. The patient's hemoglobin was 10.5 gm. per 100 cc. and his white cell count was 12,400. Otherwise the blood, urine, bilirubin, blood urea nitrogen and coagulation studies were within normal limits. Except for a temperature of 100 F. on the second day, the patient did well in the hospital and was discharged home on the fourth day.

He developed a small necrotic ulcer over the fang punctures on his right thumb. This lesion healed in about 10 days. This was a Grade III—severe venenation.

DISCUSSION

The case histories of four patients who suffered envenomations by four different species of North American pit vipers are presented. The offending reptile in each instance was identified. Moreover, each patient definitely showed signs and symptoms of pit viper venom poisoning before treatment was started. This eliminates the possibility that they were bitten by a poisonous snake but failed to receive enough venom to produce venom poisoning—a syndrome which has been described by Parrish.[22]

In Case 1 incision and suction failed to stop the spread of the venom. However, the swelling stopped promptly when 10 cc. of antivenin in 500 cc. of saline was administered intravenously. In Cases 2, 3 and 4 no mechanical measures, such as incision and suction, were used. Thus, the prompt and efficient cessation of signs and symptoms of venenation can be attributed solely to antivenin. Antibiotics and tetanus toxoid could not have produced these therapeutic effects, because they were administered after the symptoms subsided. Cases 1 and 2 were classified as Grade I—minimal venenation. I suspect that either one or both of these cases may have progressed to Grade II—moderate venenation, if intravenous antivenin had not been given promptly. Case 4 is interesting in that 20 cc. of antivenin diluted in saline stopped the spread of venom and symptoms of venenation for a short time. However, an additional 10 cc. of antivenin diluted in saline was required to permanently stop the spread of venom. Gennaro[23] observed this same phenomenon in animals which were poisoned with rattlesnake venom and treated with intravenous antivenin. One is able to titrate the amount of intravenous antivenin needed to neutralize the venom by observing the cessation of swelling and other symptoms of venom poisoning. It has been my clinical experience that one cannot effectively titrate the amount of antivenin needed to neutralize venom, if the antivenin is administered intramuscularly or subcutaneously.

A careful history for allergy and skin or conjunctival tests for horse serum sensitivity should be performed before a patient is given antivenin. These tests do not predict who will and who will not develop delayed reactions to serum (serum sickness). Moreover, they are not infallible in giving forewarning of an immediate severe reaction (anaphylaxis). Therefore, antivenin for intravenous administration should be mixed in saline in a 1:50, 1:100 or greater dilution depending on the circumstances. A separate bottle containing 60 mg. of mephentermine sulfate in 1,000 cc. of saline should be available for immediate use in case of an immediate reaction. Epinephrine should also be available. A few drops of the dilute antivenin solution are allowed to drop into the vein. If no reaction occurs in five minutes, about 2 cc. of antivenin solution is given. After another wait of five to 10 minutes and barring no reactions, the antivenin solution is infused rapidly.

One may inquire if there was a control group of patients treated with either no antivenin or with antivenin administered by the subcutaneous and intramuscular routes. It is difficult to collect cases of snake venom poisoning in human beings which are comparable, because the amount of venom a snake injects is not known and venom in the same snake and in members of the same species varies tremendously in potency.[18] However, on the basis of extensive laboratory experience with pit viper venom poisoning in animals and having attended or consulted in the treatment of more than 100 patients with North American pit viper venenations, I can state that I have never before seen such prompt cessation of the signs and symptoms of snake venom poisoning as in these four patients who received intravenous antivenin. Most of the other patients I have attended received incision and suction and recommended amounts of antivenin administered by the subcutaneous and intramuscular routes. None of these patients responded to therapy as promptly as those who received intravenous antivenin.

Experimental studies seem to confirm the clinical impression that there is a more rapid, effective and predictable response from antivenin administered by the intravenous route. Gennaro[24] reported that radioiodine-labeled antivenin accumulated at the site of the bite faster after intravenous administration than after intramuscular and subcutaneous administration. Furthermore, he found that administration of the antivenin in the bite area was not especially beneficial. Minton[17] showed that intraperitoneal injection of antivenin afforded better protection than local infiltration of antivenin in mice which were poisoned with North American pit viper venoms. Schottler[25] demonstrated the superiority of intravenous antivenin over subcutaneous antivenin in mice injected with *Bothrops* and *Crotalus* venoms. Gingrich and Hohenadel[20] found that intravenous antivenin provided more predictable death-survival curves than intraperitoneal antivenin in mice poisoned with pit viper venoms. Most experimental studies[3, 4, 17, 20, 23-25] emphasize the importance of early administration of antivenin.

Snake venom poisoning presents an appropriate disease for the use of passively transferred antibodies (antivenin). Although it is possible, it is not practical to actively immunize people against snake venoms.[26] In snakebites the total dose of toxin is injected at one time. Therefore, the rationale of antivenin therapy is to deliver as soon as possible, by the most efficient route of administration, a sufficient amount of potent antivenin to neutralize the venom at the local site before the venom and/or its autotoxic by-products can be absorbed into the body. Very likely much of the lack of clinical effectiveness of antivenin in treating North American pit viper venenations results from the fact that it has not been administered properly, i.e., by the intravenous route. There is only a two to 15 minute "incubation" or latent period between the time the venom is injected and the clinical symptoms appear. Antitoxins given intramuscularly may have a place in infectious diseases with 14 to 21 day incubation periods, but this route of administration would not seem most appropriate in treating snakebites. Slow absorption of antibodies from an intramuscular or subcutaneous site allows time for dissemination of the venom into the tissues. Of greater significance, however, is the fact that the enzymes in the venom are allowed time to form autotoxic products against which antivenin affords little or no protection. Intravenously administered antivenin should decrease the possibility of under-treatment and over-treatment in snake venom poisoning. Furthermore, the early use of intravenous antivenin should help in lowering the total dose of antivenin a patient receives. This may help eliminate many cases of serum sickness following serotherapy.

SUMMARY

Four cases of venom poisoning by North American pit vipers (rattlesnakes, cottonmouth moccasins and copperhead moccasins) which were treated with intravenous antivenin are described. Prompt cessation of edema and other signs and symptoms of venenation were observed when antivenin was given intravenously. This prompt response to therapy has not been observed when the antivenin was administered by the intramuscular and subcutaneous routes. One is able to titrate the amount of intravenous antivenin needed to neutralize the effects of the snake venom.

The rationale of antivenin therapy is to deliver as soon as possible, by the most efficient route of administration, a sufficient amount of potent antivenin to neutralize the venom at the local site before the venom and/or its autotoxic by-products can be absorbed into the body. Clinical, experimental and theoretical considerations were presented which support the intravenous use of snakebite antiserum.

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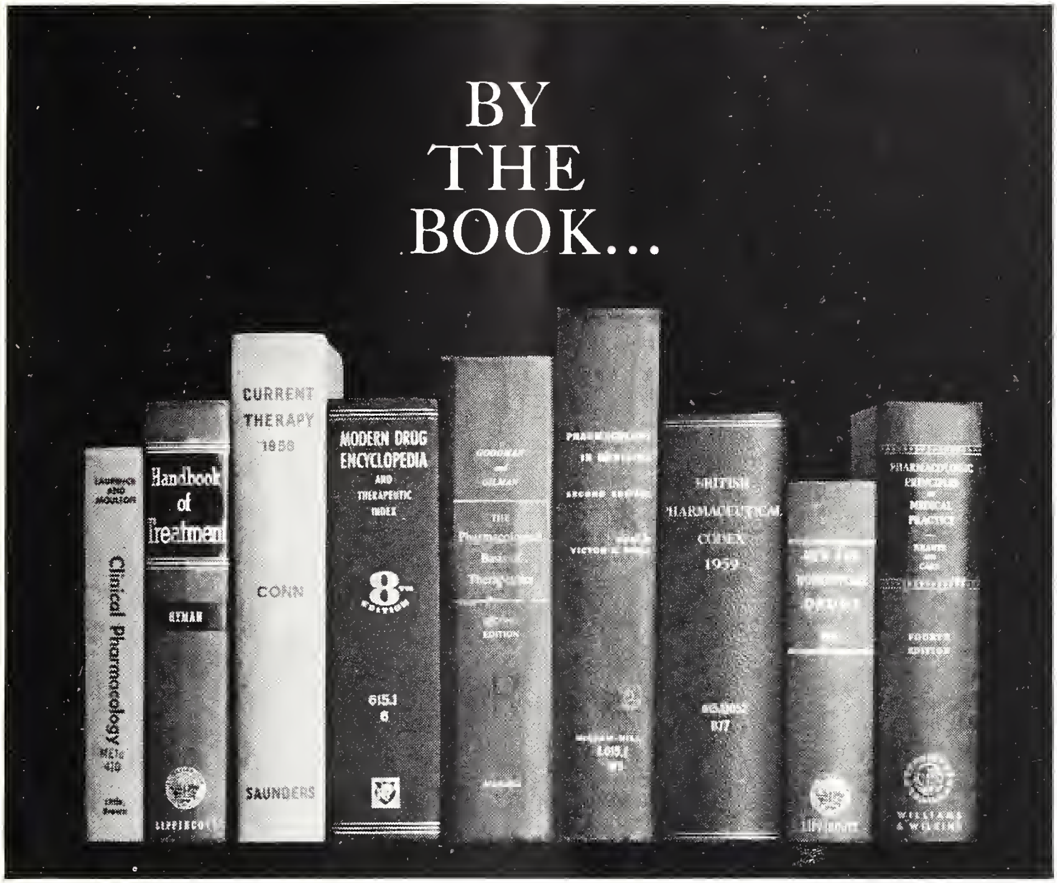
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Generalized Cytomegalic Inclusion Disease

A Case Report

A case of generalized cytomegalic inclusion disease in a 7 month old infant is reported and the diagnosis of the disease is discussed.

Mr. Scott is a Post Sophomore Fellow in Pathology; Dr. Baker is Assistant Instructor in the Department of Pathology, and Dr. Harris is Assistant Instructor in the Department of Pediatrics of the University of Missouri School of Medicine.

Generalized cytomegalic inclusion disease is an uncommon disease of infancy. However, an increasing number of cases have been reported in the recent literature. The great majority of these have been diagnosed only at autopsy. Wyatt[1] suggested that the antemortem diagnosis could be made by studying urinary sediment for inclusion bearing cells. Soon afterward, Fetterman[2] reported a case in which the diagnosis was made in this manner. The following case is one in which the diagnosis was suggested following a study of urinary sediment which contained typical inclusion bearing cells.

Case Report

A 7 month old white male infant was admitted to the University of Missouri Medical Center on October 13, 1961. He was the product of a 37 week pregnancy, complicated by excessive weight gain and occasional urinary tract infections. Jaundice was not noted at birth. Bloody diarrhea and convulsions occurred within the neonatal period. Hepatosplenomegaly and anemia became manifest at 6 weeks of age.

Physical examination revealed: temperature, 100 F.; pulse rate, 140 per minute; and respirations, 32 per minute. The patient was poorly nourished and pale. He did not respond to loud auditory stimuli and failed to follow moving objects with his eyes. The pupils were miotic. Funduscopic examination revealed extensive white exudates and areas of hemorrhage consistent with chorioretinitis. Examination of the lungs and cardiovascular system revealed no abnormalities. The liver was palpable eight centimeters below the right costal margin and the spleen extended to the level of the umbilicus. A diffuse, erythematous, eczematous rash was present over the upper lip, cheeks, anterior cervical region and scalp.

Laboratory studies: white blood cells, 5,400 per cu. mm.; differential count, normal; hemoglobin, 8 gm. per 100 ml.; hematocrit, 26 per cent; platelets, 37,000 per cu. mm.; prothrombin, bleeding and clotting times were normal. The Coombs' test was negative. Examination of cerebrospinal fluid for specific pathogens, including *Toxoplasma gondii*, was negative. Urinary sediment on one occasion contained numerous large cells with multiple cytoplasmic inclusions and an occasional cell with nuclear inclusions.

The patient remained febrile and lethargic during the 19 days of hospitalization. Terminally, he became anorectic and tachypneic.

The autopsy was performed eight hours after death. Each lung weighed 165 gm., and except for slight reduction in crepitation, there were no other gross abnormalities. Histologic study revealed severe, diffuse, interstitial pneumonitis. The alveoli were filled with fibrin, macrophages and exfoliated inclusion bearing cells. The septa were covered by large giant cells containing both intranuclear and intracytoplasmic inclusions (fig. 1). The liver weighed 360 gm. and was congested. The spleen weighed 55 gm. Microscopic examination of both organs revealed an occasional large cell containing typical inclusions. The adrenal glands, pancreas, thyroid, kidneys and lymph nodes were grossly normal. However, inclusion bearing cells were demonstrated his-

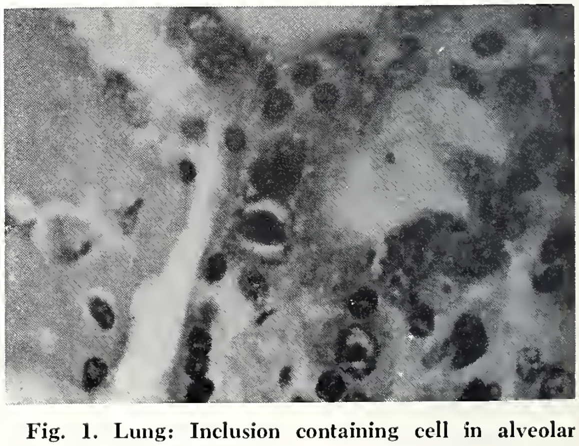

Fig. 1. Lung: Inclusion containing cell in alveolar septum. (H&E × 264).

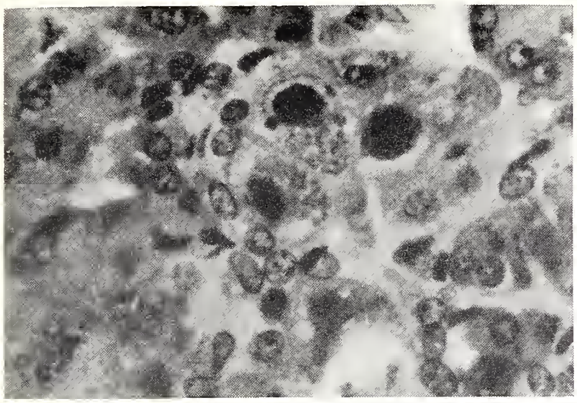

Fig. 2. Pancreas: Intranuclear and cytoplasmic inclusions in acinar cells. (H&E × 264).

tologically in each of these organs (fig. 2). The optic nerves and salivary glands also contained cellular inclusions.

DISCUSSION

Cytomegalic inclusion disease of infancy can be divided into two major groups, neonatal and postnatal, on both clinical and anatomic grounds. The classical picture of the neonatal form of the disease is a premature infant with hepatosplenomegaly, jaundice and petechiae developing within a few hours after birth.[3, 4] There is often an associated increase in the number of circulating nucleated erythrocytes which may lead to an erroneous diagnosis of erythroblastosis fetalis. This can be excluded by a negative Coomb's test and blood typing that fails to demonstrate any blood group incompatibilities. Death, due to hepatic, renal and pulmonary involvement, occurs within 48 to 72 hours.[5]

The disease in its postnatal form is not related to premature birth or a maternal viral infection during pregnancy. Affected infants develop an upper respiratory infection, vomiting and diarrhea at 2 to 4 months of age.[3, 5] Death occurs in from two to three weeks and can be attributed to a severe interstitial pneumonitis with associated renal and hepatic failure.

Careful postmortem studies have demonstrated cellular inclusions in virtually every organ of the body. Salivary glands, kidneys and lungs are the organs most often involved. Liver, pancreas and thyroid are less frequently involved.[6] The postnatal cases have inclusion cells in the lungs, liver and adrenal glands.[5] This is the same general distribution seen in adults that have died from malignant lymphoma or leukemia with associated generalized cytomegalic inclusion disease.

In most cases the disease is rarely diagnosed during life. There may be evidence of hepatic or renal dysfunction present, but these changes are nonspecific. As in this case a dermatitis has been described in this disease,[3] and in one case, typical inclusion cells were present in the sweat glands.[16] Chorioretinitis is an infrequent finding and has been reported in only a few cases.[17] Other forms of ocular involvement including uveitis, cataract and infiltration of the retina by inclusion cells have been reported from autopsy material. The finding of chorioretinitis as well as intracranial calcifications in both cytomegalic inclusion disease and toxoplasmosis may make their differentiation difficult. The presence of periventricular calcification which outlines the lateral ventricles has been reported to occur more frequently in cytomegalic inclusion disease than in toxoplasmosis.[18] The Sabin-Feldman dye test which shows a negative or insignificant titer in the mother as well as in the infant helps to eliminate the possibility of toxoplasmosis.

The etiologic agent is the salivary gland virus which has been isolated and grown in tissue culture.[7, 8] There are several host specific strains, one of which is specific for man.[3, 5, 9]

The exact frequency of the virus infection is not known. Rowe[8] reported virus complement fixing antibodies in 54 per cent of a group of adults in the 18 to 25 year age group. He also demonstrated antibodies in 81 per cent of a group over 35 years of age.

Wyatt[1] originally reported that 1 to 2 per cent of all unselected autopsies in children would show evidence of generalized cytomegalic inclusion disease. The incidence is much greater if one includes those infants having only localized salivary gland involvement. Farber[10] reported finding typical inclusion bearing cells in 22 of 183 (12 per cent) infants whose salivary glands were examined and Symmers[6] reported an average incidence of 10 to 15 per cent.

One feature that is pathognomonic of this disease is the finding of enlarged cells containing intranuclear inclusions. These cells are quite large, measuring 30 to 40 microns in diameter. In this case, and in several others, they have been found in the urine. Some have been observed in cerebrospinal fluid[11] and in gastric washings.[12] Sputum and gastric washings may yield inclusion containing cells that have exfoliated from salivary gland ducts. Their presence does not necessarily indicate a generalized salivary gland virus infection.[5]

The nuclear inclusions stain basophilic with hematoxylin and eosin, measure 8 to 9 microns in diameter and are surrounded by a halo that separates them from the nuclear membrane.[13] Histochemical studies by Dyckman[14] reveal the intranuclear inclusions to be Feulgen positive and give a negative reaction when exposed to periodic-acid-Schiff reagent. Ultraviolet absorption studies indicate they are composed of a pyrimidine-containing protein which is either depolymerized desoxyribonucleic acid or ribonucleic acid plus an additional Feulgen-positive substance.

Utilizing the electron microscope and by studying infected fibroblasts grown in tissue culture, Luse[15] was able to demonstrate that the intranuclear inclusions consisted of a fine chromatin lacework with small viral particles interspersed. The particles measured approximately 100 millimicrons in diameter, and consisted of a central dense dot surrounded by a lighter zone and a dense outer shell.

The cytoplasmic inclusions are less common than nuclear inclusions. These are small, 2 to 4 microns in diameter, and occur as aggregates around the periphery of the cell.[13] The cytoplasm is often vacuolated and contains 10 to 20 inclusions.[1, 3] These also stain basophilic with hematoxylin and eosin and are PAS positive. Electron microscopy reveals particles identical to those seen in the nuclear inclusions.[15]

Summary

This is a case report of generalized cytomegalic inclusion disease with the less common manifestations of dermatitis and chorioretinitis. An antemortem diagnosis was made on the basis of a study of urinary sediment containing exfoliated cells with typical intranuclear and cytoplasmic inclusions.

This diagnosis should be considered in all infants with unexplained anemia, thrombocytopenia and hepatosplenomegaly and in all older children with hepatosplenomegaly in association with a severe gastroenteritis or pneumonia. Laboratory diagnosis may be made by demonstrating inclusions within exfoliated cells found in urine, cerebrospinal fluid or gastric washings.

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The Missouri State Surgical Society takes pleasure in announcing its Sixth Annual Meeting to be held Monday evening, March 25, 1963.

The distinguished guest will be Frank Glenn, M.D., Surgeon in Chief of the New York Hospital-Cornell Medical Center, whose topic will be "Complications of Biliary Tract Surgery."

The meeting will be held at the Downtown Club, 30th floor, Power and Light Building, 14th and Baltimore Avenues. The entrance will be on the 14th Street side.

Nonmembers of the Missouri State Surgical Society desiring to attend this meeting should make reservations through Dr. John A. Growdon, 1324 Professional Bldg., Kansas City 6, Mo. Because of limited space these reservations must be made prior to March 18, 1963.

Dr. Glenn will also speak before the Missouri State Medical Association scientific assembly at 2:00 p.m., Monday, March 25. His topic will be "The Surgical Treatment of Mitral Stenosis."

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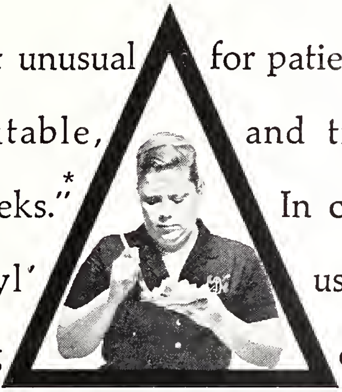

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WILLIAM A. BOLES, ***St. Louis***

Status of Use of the Corporate Form of Organization by Missouri Physicians

Special Article

Incorporation by physicians under the General and Business Corporation Act of Missouri is discussed, with advantages and disadvantages given.

Mr. Boles is an Attorney at Law in St. Louis.

In December of 1962, the Secretary of State of Missouri issued corporate charters to several groups of doctors who had applied for incorporation under the General and Business Corporation Act of Missouri, Ch. 351, R.S.Mo. 1959. The stated purpose of these corporations was "To contract with all persons who may apply to it, to supply examination, diagnosis, treatment and advice to the sick and all others afflicted with bodily and mental infirmities, to contract with and employ physicians, surgeons, nurses and other persons duly licensed to practice medicine in all of its departments, to perform and give such examination, diagnosis, treatment or advice."

The purpose may seem to be clumsily stated, however, the wording is designed to stay within the limits of a proper corporate purpose defined in the Attorney General of Missouri's Opinion No. 8 dated March 15, 1962.

The practical use of the corporation would be to handle all of the nonmedical aspects of the doctor's practice. The goals of the doctors seeking incorporation were twofold, to utilize organizational technics which have proven so effective for industry and business, and to obtain equality under the federal tax laws with the stockholder employees of corporations.

Some may have difficulty in seeing what the corporate form of organization could possibly achieve in a small group, for the word "corporation" only brings to mind the corporate giants. However, in the last several decades the closely held corporation has been developed to a high state of usefulness, and the technics there developed, make this form of organization eminently usable even for quite small groups.

I think that most people will agree that the efficient doing of almost anything is desirable, and that organization is an essential to efficiency. In its simplest use, the word "organization" means definition and classification. The function that organization performs when several people must work together is to standardize terminology and procedure, which in turn reduces misunderstanding and lends confidence in the whole scheme.

The corporate form of organization provides a simple, easily understood yet flexible structure in which each relationship is defined in more detail than in other legal forms of organization and also provides an orderly system for resolving differences which otherwise might hamper or block completely smooth performance. Such a simple explanation is perhaps unimpressive, but when it is realized that in 1958 more than 80 per cent of the business receipts were collected by organizations using the corporate form (Statistical Abstract of the United States, 1961, p. 481) it is apparent that there are many who believe the system has merit.

The tax reasons for use of the corporate form of organization are:

1. *Bracket Leveling.*—Since individuals are taxed in graduated brackets, if income can be divided between two taxable entities, each would be taxed on the amount reported by it at a lower rate or bracket than if either reported all of the income. If constant salaries are paid, the corporation will have a loss in bad years to carry forward to good years, producing a lower average bracket over the eight year permitted period.

2. *Employee Status.*—If the stockholders of a corporation perform work for the corporation they are considered employees of the corporation, even though they are also the owners by virtue of their stockholding. This is because, in

the eyes of the law, the corporation although a separate legal person, is a fiction of the law and can only act through its human agencies.

The employer has been encouraged by the tax laws to make provisions for its employees against the contingencies of life, which the employee probably would not provide if left to his own devices. These benefits are given favorable tax treatment in two ways. Although the cost is deductible by the employer, as any other compensation paid the employee, the employee is either not taxed at all for the cost of the benefit or the tax is postponed to a later time when the tax bracket is presumed to be lower, or taxed under a different class of income where the rate of tax is lower. Examples of employee benefits:

A. Pensions, either under qualified pension or profit sharing plans.

B. Social Security (physicians do not now qualify for Social Security benefits unless employed).

C. Group Life Insurance.

D. Group health and accident insurance or medical payment plans.

E. Wage continuation plans during illness or disability.

3. *Retained Earnings.*—The portion of earnings retained by the corporation could be invested with more favorable tax consequences than if the same funds were invested by the individual. An example is the 85 per cent dividend deduction for domestic corporation dividends.

4. *Capital Gain Treatment.*—Upon sale of the stock or liquidation of the company, the increase of fair market value over cost of the stock receives capital gain treatment.

It would serve no purpose to go into greater detail or to further discuss taxation in an article of this nature, for each physician will find that his personal situation is somewhat different from others and that the tax saving technic which might benefit others would not benefit him or vice versa. Each physician who is interested in this development should contact competent counsel and review with him what savings could be accomplished and what effect the accomplishment of such savings would have on the other factors affecting his practice. The cost of such an inquiry would in most instances be nominal in comparison with what might be accomplished.

In the fall of 1961, the Council of the Missouri State Medical Association assigned to its Committee on Corporate Practice the responsibility of reviewing the ethical propriety of professional corporations. The Committee reviewed the statutes which had been passed in many states, authorizing professional associations and corporations, stimulated by the Kintner Decision 216 F 2d 418 and the 1960 Treasury Regulations relating to the taxation of associations as corporations, Sec. 301.7701. The Committee examined in detail the plan and function of each statute in enforcing professional ethics and the systems and methods to be employed in carrying out its purposes.

The Committee further examined the pronouncements of the American Medical Association and the opinion of the Attorney General of the State of Missouri, No. 8, dated March 15, 1962, holding that under Missouri decisions, corporations could legally contract with patients to supply medical services and could employ physicians to render those services.

The Committee concluded that the special statutes regulating professional corporations or associations added nothing to the power that the Missouri State Licensing Board now has, under Ch. 334, R.S. Mo. 1959, for controlling the conduct of physicians and in preventing nonlicensed persons from engaging in the practice of medicine. In that these professional corporation and association acts attempt to regulate the physician's property rather than his conduct, such law could well be in conflict with general property laws. In any event, until the courts have interpreted any new law creating a special class of corporation for professionals, no one could use this form of organization with any confidence.

The Committee in its report concluded that physicians can ethically and with propriety incorporate under the General and Business Corporation Act of Mo., Ch. 351, R. S. Mo. 1959 to handle the nonmedical aspects of their practice. The examination and treatment of patients, of course, is the practice of medicine and may only be handled by licensed physicians. No new legislation is necessary to protect either the profession or the public. The licensing laws of Missouri as they are now written and interpreted by the Missouri courts give the Licensing Board quite ample power to enjoin unlicensed practice or to revoke a license for unethical conduct by licensed persons. On December 10, 1962, the Council of the Missouri State Medical Association approved the Committee report.

The way is now clear for Missouri physicians to use the same form of corporation that all others use and to seek to be taxed as they are taxed.

What will be the attitude of the Internal Revenue Service? I believe it can be expected that the Internal Revenue Service will carefully scrutinize each new professional corporation to determine whether or not it has some fundamental purpose or is merely a scheme for tax avoidance. Since the medical profession is not, in this device, seeking any special advantage for itself, but only equality with others similarly situated, it is my opinion that the approach is sound and the efforts to achieve equality will be successful.

Are there other advantages to the use of the corporate form of organization?

In addition to the advantages pointed out, the corporation gives to the group perpetual existence, provides a democratic system for making the policies that affect the group, simplifies accounting for the interests in the group, and in many other ways facilitates action which would be difficult or impossible under other forms of organization.

Are there disadvantages of the corporate form? Certainly there are. For example: The tax laws pose certain pitfalls which must be avoided; the corporate form of organization is a rather specific system; careless handling or failure to plan can cause difficulty; some will be reluctant to give up to a group enough individual rights to make the group work, and the system will be blamed for the individual failure.

The corporation is basically an organizational technic. Like any other technic, in skilled hands it works wonders; but many will set up corporations and never use its multiple devices, will do everything the same old way so that the corporation will be a hindrance instead of a help to them. The admonition is, if one intends to use the corporate form at all, take the time to learn how to use it well.

THE BUSINESS SIDE OF MEDICINE

A physician's major responsibility to himself and his family, that of conducting his practice with such efficiency that it yields justifiable financial return, is to be pointedly, illuminatingly discussed at a meeting scheduled in conjunction with the Missouri State Medical Association's annual session in Kansas City.

Three management consultants and one physician—Wayne B. Conwell, president, Professional Management, Inc., St. Louis; Glenn C. Kreamer, assistant manager, Professional Management Midwest, Kansas City; Floyd F. Wehrenberg, southern division manager, Professional Management Midwest, Kansas City; and Glenn O. Turner, M.D., Springfield—will deal in the specifics of "The Business Side of Medicine." Designed to interest all members of the profession, the panel discussion on Monday, March 25 at 8:00 p.m. is an unquestionably timely contribution of the Missouri Society of Internal Medicine, and will follow a dinner meeting of the Society in Room 364, Hotel Muehlebach.

"The answer to improving a doctor's financial position is not in working still more hours," stated Dr. Turner. "At the heart of the problem is the mounting intricacy of office and personnel management. Only skilled guidance can lead to the businesslike operation which brings about greater patient satisfaction, better utilization of the physician's time and, ultimately, greater profit from his skills and investment."

Wives are urged to join their husbands for this brief after-dinner meeting, since their understanding and support of their husbands' work can be materially enhanced by sharing this experience with them.

"Because men of all specialties share this problem," said Dr. Turner, "all are invited to join in learning of the problem's solution."

Write a challenging question for the panel. What's your knottiest problem—collections, patient complaints about charges, inability to budget your time, appointment mixups, issues between yourself and professional associates? Mail it to Missouri State Medical Association, 634 N. Grand Avenue, St. Louis 3, Mo.—today.

BERTRAM S. BROWN, M.D., ***Bethesda, Md.***

Pathways and Detours to and From the Mental Hospital

Special Article

The means by which a patient becomes an inmate of a mental hospital are discussed, the contacts and the handling. Also discussed are the day hospital and the halfway house.

Dr. Brown is Special Assistant for Program, Extramural Programs, National Institute of Mental Health, Public Health Service, U. S. Department of Health, Education and Welfare, Bethesda, Md.

This paper was presented at the first state College Conference on Mental Health, Westminster College, Fulton, Mo., on April 7, 1962.

SOMEBODY IS sick. He is no longer functioning well. One knows this through a variety of signs and symptoms. Perhaps the person cannot get out of bed. The doctor is called and, after an examination, diagnoses pneumonia, heart attack or stroke, and transportation to the hospital is quickly arranged.

Now look at another person who is sick. Perhaps he will not get out of bed even though there is no fever or other obvious symptom of physical illness. When approached he is withdrawn or irritable. A puzzled or angry family member becomes concerned. Is he lazy or crazy? The doctor is called and, after examining the patient, finds no evidence of pneumonia, heart attack or stroke. However, the patient is found to be emotionally disturbed. What happens then?

What happens then is a function of attitude and knowledge of both family and professional, plus available facilities in the community for management of the problem. Put in other words, people and places determine in great measure the road to be followed by a mentally disturbed person.

What kinds of people come into contact with these situations? Almost always a family member or friend is involved. They in turn may look to others who traditionally render help. This is often the clergyman, the family doctor or teacher. In technical jargon, this group of "helpers" are called the "caretakers." They are the front line in the problem of mental illness.

There is not now, and will not be in the foreseeable future, enough psychiatrists to manage mental and emotional illness. Simple arithmetic indicates this. If each of the 750,000 patients now in mental hospitals were to see a psychiatrist just one hour a week, 19,000 psychiatrists would be needed. There are only 12,000 in the United States and, as is well known, only a fraction devote the majority of their time to mental hospitals. With only a little ingenuity, one can make this situation sound even more dramatic or frightening.

What is apparent is that the "caretakers" in the community must become trained and skilled in meeting the problems of emotional or mental disturbance. Activity in programs toward achieving this goal is increasing throughout the nation. General practitioners are receiving increasing training in problems of mental health and illness, both as medical students and in the form of postgraduate seminars and training. Teachers are receiving academic courses during training as well as having available increased consultation in mental health problems in school settings. Training programs for three faiths at Loyola, Harvard and Yeshiva, have permitted the addition of psychiatrists to the theological faculty—a pattern that will be utilized more widely in the future.

One can detail at length current developments in mental health training and consultation for police officers and judges, for welfare workers and recreation leaders and many others. In one city a program for narcotic addiction was initiated by a pharmacist. Some have been so bold as to claim that the only real solution is to develop mental health training for bartenders, but perhaps this suggestion is all wet.

So far the equation consists of a disturbed person, a family member and a "caretaker," surrounded by a community. What is the result? Let us examine two possibilities on the pathway to the mental hospital.

A sick person of his family calls on a "caretaker" for help. The caretaker may or may not respond, but even if he does, he feels that this particular problem is out of his range of responsibility or competence. The family becomes frightened, the patient sicker and there is only one recourse: the police. The patient is taken to jail, a necessary stopover, so that commitment proceedings can begin. In some states a trial by judge and jury is necessary and the patient, a day to a week later, ends up in a mental hospital, committed as insane. He has often lost not only his civil rights, but his dignity. This pathway through police and jail to the mental hospital is still the major route in some states.

Contrast this outcome with what happens when the sick patient calls on a knowledgeable general practitioner who fortunately practices in a community where the local hospital has a psychiatric service. Admission is voluntary, and a psychiatrist is available. The patient, after a few days or weeks of hospitalization, may still remain sick and need further treatment in the public mental hospital. Of great significance is the fact that the stopever at the general hospital may turn out to be a detour, and the patient, under skilled care, often recovers in a few weeks' time and need never go to the public mental hospital.

This stopover in the general hospital for the mental patient is of great practical significance. At present the number of mental patients admitted to psychiatric services of general hospitals almost equals the number of admissions to public mental hospitals. This is a great symbol of the changing view toward mental illness. No longer are the mentally ill to be treated as a group apart from other sick people, but rather a group deserving the same excellent care as the physically ill.

In a similar way to the two contrasting itineraries on the way to the hospital, contrast two routes on the pathway from the mental hospital.

The anonymous sick patient has been in the public mental hospital for several months. He now gets up in the morning feeling less irritable and has been participating in the hospital activity program. He feels well enough to go home, though somewhat scared at the prospect, and the doctors feel he is ready for discharge. He is discharged and goes directly to his home. He cannot afford private psychiatric care, or it is not available in his community. The doctor in town is overworked and, anyway, he does not treat mental patients. The patient may have lost his job and is not sure how to go about getting a new one. The shift from full hospitalization to community life is abrupt and more than he can handle.

In contrasting circumstances, the patient has recourse to a day hospital program, located in the public mental hospital, or in some other setting in his community. He continues to participate in a therapy program but spends nights and weekends with his family. The transition is easier and the likelihood of full community integration is greater.

As another alternative to full hospitalization he may go to a half-way house. Here he spends his evenings and weekends in a protective setting while going to work during the day. Again the transition is easier.

There are other alternatives such as night hospitals, sheltered workshops, foster care homes, ex-patient clubs, in addition to the day hospital and half-way house. The technical name for these new modalities is "transitional facilities."

I would like now to discuss two of these facilities—the day hospital and the half-way house—more thoroughly.

The history of half-way houses is ancient. In England, as early as 1781, there were half-way houses for the "insane poor." Half-way houses have also been used for alcoholics, criminals and juvenile delinquents. However, half-way houses for former mental patients are a relatively new phenomena. All seven currently existing psychiatric half-way houses in the United States have been founded since 1954.

Simply stated, the half-way house provides a residence for mental patients who no longer need to remain hospitalized but who are as yet unable to establish independent residence and functioning in the community. These may be patients with no homes, or homes considered unsuitable, or the patients may simply be those who are not yet strong enough to meet the stresses of community life.

The half-way house is more than a shelter. It provides two other essentials—first a group of persons who have shared the same experience of mental illness and hospitalization; and second, some form of professional help through the house director and other psychiatric services.

The resident of a half-way house is encouraged to seek recreation and social life outside the home and, in most cases, to be gainfully employed. The half-way house provides warmth and support to the resident through informal and formal get-togethers with the other residents, and contact with the house director. These form a nourishing backdrop and help the resident increase his social skills and develop self-confidence. After a period of a few weeks to a few months, the majority of patients are able to move out to independent adjustment in the community.

This country is far from halfway to the mark of making use of this modality. A study of a psychiatric veterans hospital revealed that from 15 to 25 per cent of the patients would be eligible or would likely benefit from a stay at a half-way house. Half-way houses might well meet the needs of tens of thousands of mental patients. The total number of patients who have received the benefit of this service is in the hundreds.

As presently utilized, the major role of the half-way house can be described as a bridge from hospital to community, a pathway from the mental hospital.

One study has shown that it is also a possible place of direct admission from the community that can successfully prevent full-time hospitalization. At present a quarter million people are admitted each year to public mental hospitals. The number of patients who are admitted to half-way houses as a possible alternative can be counted on the fingers of your hands.

The second transitional facility I want to discuss is the day hospital. What is it? In essence it is a setting in which mental patients spend their daytime hours while living at home evenings and weekends. The day hospital challenges the basis of the present concept of hospitals, for it is a hospital without beds. Thus the terms "day program," "day centers" and "day care" have come into use. If it is true that a university is more than bricks and mortar, that it is basically teachers and students, then it is equally true that patients and those that care for them make a hospital, whether the patient sleeps at home or away. The day hospital is an exciting development in the evolution of ways to help the mentally ill—an evolutionary process which is moving from custodial care with lock and key to therapeutic care with family and community.

Custodial care may be a necessity for some mental patients but certainly not for all. At its best it may maintain the body in fair physical shape but neglects the soul, or relegates it to a chronic hopelessness insofar as return to the community is concerned. At its worst, it represents restraint, seclusion, isolation and other elements that constitute the nightmare of the "snake pit."

Therapeutic care implies an attitude of basic hopefulness and may include voluntary admission, an open door, often some form of patient government and always the maintenance of the patient's dignity. It means an environment that offers help in a medical setting but, more important, it implies the giving of the most powerful medicine known—other people who really care. These people who care include not only the psychiatrist and other professionals, but the interested members of the community such as the college student who makes volunteer visits and, of course, the family who wants the patient back, functioning and perhaps even happier and more effective than before the mental illness began.

A major finding of the Joint Commission on Mental Illness and Health, a distinguished group of leading organizations and individuals that has surveyed the status of psychiatric care in the United States and made its recommendations to Congress, is that therapeutic care is being provided to only 20 per cent of the 500,000 patients in public mental hospitals. Four hundred thousand receive custodial care only, and that of varying quality.

Returning to discussion of the day hospital—when and where did the day hospital originate? This "psychiatric sputnik" was launched in Russia in 1933. A report in 1937 describes in detail a day hospital associated with the first psychiatric hospital in Moscow. This unit cared for 1,225 patients, mostly psychotic, during the four years reported on. Currently the day hospital is deeply ingrained as an important element in the Soviet pattern of community psychiatry. As one might expect in the Soviet Union, there was a government decree issued in 1956 firmly establishing day hospitals as an institutionalized system. Of significance is that this historical development and current status of day hospitals in the Soviet Union is little known and has probably had little effect on later developments in the Western World.

Developments in the Western World include precursors such as psychoneurotic patients attending for the day the Adams House Sanitarium in Boston in 1935. However, the first full-fledged western day hospital for seriously ill psychiatric patients was established in Montreal, Canada, in 1947. In England the first day hospital was established in 1951 and the pattern there has developed so that it is an extensive component of psychiatric practice.

In the United States a day and night plan was begun in New Haven, Connecticut, in 1948, and at the Menninger Clinic in Topeka, Kansas, in 1949. A current estimate is that at the present time there are more than 30 day care centers or day hospitals operating in the United States.

A review of these day hospitals reveals a wide array of settings and systems in which they function. It provides a panoramic view of the current status of psychiatric care in this country, and a dynamic picture of its changing nature.

There are day hospitals associated with the public mental hospitals, either situated on its grounds, or administratively associated with the hospital and located elsewhere.

There are day hospitals as an integral component of the psychiatric departments of general hospitals, or administratively associated with the hospital but housed in a separate building. There are day hospitals that are part of community outpatient services—these outpatient departments may in turn be a component of a mental health center, health department or other community mental health facility. And there are day hospitals working as completely separate treatment centers.

What do day hospitals do? What are their functions? The day hospital has been referred to as an important step in the evolutionary pathway from custodial to therapeutic care. Less philosophically and more personally, the day hospital is a crucial step on the pathway of the patient to and from the mental hospital. At first the day hospital served mostly to strengthen convalescence by providing a transition from full inpatient status to full discharge into the community. Recently it has been used more and more as a place of direct admission from the community, and has proved itself successful in preventing full-time hospitalization for a wide variety of seriously ill patients.

In some hospitals the dynamic changes implicit in the day hospital concept have led to a restructuring and rethinking of the role of the total hospital. The ratio of day patients to inpatients within the actual wards of the hospital is being increased. It is estimated by some authorities that 75 per cent of patients now admitted to full-time hospitalization could be cared for by partial hospitalization or day care. Eventually the beds on the ward would be used only for the minority of patients whose needs for overnight care were clear, as for example in suicidal risks or for those who have no family settings in which they could remain.

There are many driving forces moving toward decreasing the proportion of patients receiving full-time hospitalization. Perhaps most basic is the concept that patients are people who should not be uprooted from their natural surroundings of family and community any more than is absolutely necessary to insure their recovery as soon as possible. Less than 1 per cent of patients now in mental hospitals are in day hospitals. If the promise of partial hospitalization by means such as the day hospital is fulfilled, then we are on the verge of what may be the major revolution in psychiatric care of our time. What at present seems to be a detour, namely the day hospital, may soon become the major pathway; a pathway from which one never loses sight of community, family and friends no matter how difficult the trip.

A phase often used to describe the transitional relationship between hospital and community is the "bridge." I have discussed the person on the bridge, namely the patient, and some of the bridge's structural components such as general hospitals, day hospitals and half-way houses. I would like to add another component, which changes this bridge from one of steel and stone to one of hand and heart—the community citizen who, as a volunteer in the hospital, serves to make a human chain of greater strength than any metal cable.

For many years lay men and women have performed invaluable free service in hospitals. Those who have worked in psychiatric hospitals have been not only compassionate but well motivated to overcome inner and outer resistances to such work. In the last 15 years the volunteer movement has gained momentum so that there are now on many psychiatric hospital staffs directors of volunteer programs. The services of volunteers are valuable not only for their direct contacts with the hospital and with the patients but also for their efforts as "public relations ambassadors" to the community, informing their friends and neighbors about the care and treatment program of the hospital and the role of the community in assisting these programs.

Most recently a new group of volunteers has begun to look toward the mental hospitals. This group consists of college students throughout the country. They are young men and women who reveal both social and personal vision. By visiting and participating in psychiatric hospital programs, they serve patients, the community and themselves in an exciting venture of mental health education. It is on this that you embark this afternoon—a pathway to and from the mental hospital. Let us hope this speech will be your only detour.

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SOLOMON GARB, M.D. *Columbia*

Thermonuclear Survival

Civil Defense Planning for Schools

A MAJOR problem in civil defense planning is the the safety of school children. If an enemy attack should take place when the children are home, then, of course, they would be cared for by their parents with the rest of the family, going either to a community shelter, neighborhood shelter or family shelter. On the other hand, if an enemy attack occurred during school hours there would be a series of problems for which solutions have not yet been found. Some parents, who have children in different schools, would be faced with the cruel choice of which child to go for first. The school administrators would have difficulty in deciding whether it is best to keep children in school or to send them home when a warning sounds. In households in which both parents work, sending children home from school may not afford them any protection at all if there is no one at home to care for them. Above all, there is concern for the safety of school children because, to most parents, children are the most important citizens of the country and their safety is and should be paramount. Unfortunately, however, the efforts which have been made thus far in civil defense have, by and large, been concentrated on groups other than school children. Therefore, it is an unfortunate fact that the most vulnerable group in society today in the event of a thermonuclear war will be children of school age. Accordingly, it is important to consider ways and means by which these children may be better protected.

In many communities, plans of one sort or another have been drawn up by school authorities for the protection and management of school children during an enemy attack. Often these plans include a statement to the effect that when an attack appears imminent the children will be brought to the safest area of the school. This term "the safest area of the school" is likely to be misleading in almost all cases. There are few schools in the United States today that have any area that could be considered even partially safe in the event of an enemy theromonuclear attack. Schools today have been built for spaciousness, for pleasant appearance and for economy. They were never designed to withstand the detonation of a hydrogen bomb. Indeed, most schools have so much glass in them that they may turn out to be more dangerous to their occupants, in the event of a distant blast, than no building at all. The modern elementary school buildings do not have basements and the protection factor against fallout radiation in the "safest part of the school" is probably about two or three. By contrast, the protection factor in an unmodified home basement is about 10 and the minimum protection factor for an adequate shelter is about 100.

Some school administrators have realized that their school buildings offer no real protection for children and, therefore, plan to send the children home at the first warning. This is probably a more realistic approach than attempting to put them in a school corridor which offers only the illusion of protection. On the other hand, sending children home unescorted involves problems and drawbacks of its own. It can be anticipated that traffic jams will develop as frantic parents drive up trying to find their children, particularly if the children have already started home on their own. In addition, as pointed out, those children whose parents are both at work will not have a place to go unless some other provisions are made. Clearly, the problem faced in providing for the safety of school children against an enemy attack is a formidable one.

This continues a series of articles on thermonuclear survival. These include material previously published in the *New York State Journal of Medicine*, and are published with permission of that journal.

Dr. Garb is secretary of Medical Education for national Defense at the University of Missouri. He is Associate Professor of Pharmacology, Department of Physiology and Pharmacology, at the University of Missouri School of Medicine.

Reprints of individual articles will not be available but reprints of the entire series will be made available if there is sufficient demand.

On the other hand, a formidable problem is not an insoluble problem, and there are things which can be done to increase greatly the safety of school children.

The best arrangement would be the construction under the schoolyard of a shelter large enough to hold all the children in the school plus an equivalent number of adults. Such an arrangement would have some distinct advantages. First of all, the children in school would be assured of adequate shelter well within the warning period of an enemy attack even if such an attack were launched with missiles. The children in the school could get into the schoolyard shelter within five minutes or less, well before the detonation of an enemy missile. Parents who are concerned about their small children being in a shelter for days or perhaps weeks without their parents could go to the shelter and be with the children there. Parents who have children in more than one school could arrange in advance that the older children will remain in the school shelter with their classmates until the all-clear signal is given, while one or both parents will go to the shelter in the school in which the youngest child is. Working parents who cannot get to a school shelter near their home in time could be reasonably sure that their small children would be taken care of by the teachers and other parents who would go to that shelter. Although this may make some of the smaller children unhappy, it will at least save their lives, which is, after all, the most important aim. There is another major advantage to a shelter under the schoolyard. Schools are usually well dispersed throughout urban and suburban areas so that few homes are more than five blocks from some school. Therefore, even after school hours, or at night, these shelters in schoolyards could be used as community shelters with families in the neighborhood able to walk there in 10 to 20 minutes.

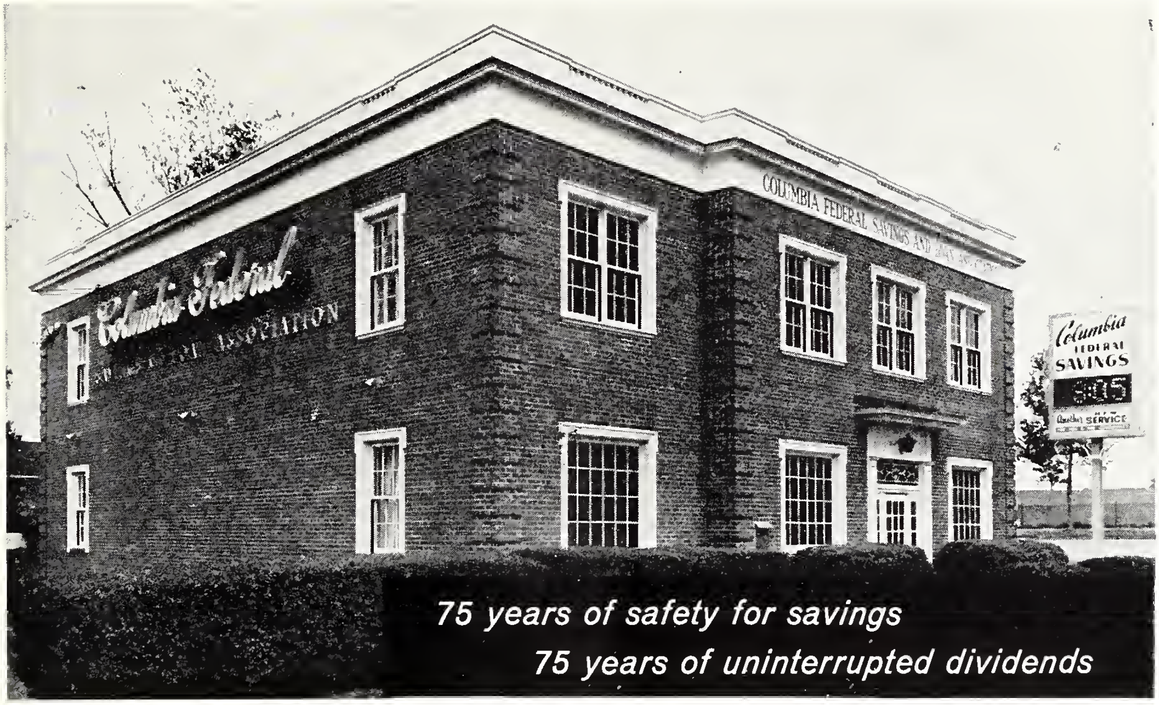
If a shelter is to be built under a schoolyard, it would be wise to make it proof against moderate blast and against moderate heat as well. Ordinarily, fire and firestorms are not dangers which would apply to a schoolyard because the school building is usually non-inflammable and because the yards are usually large enough so that any inflammable houses or structures are some distance away. An excellent type of shelter for placement under a schoolyard is a plate-pipe arch (see article "Family, Neighborhood and Community Shelters"). A useful size would be one with a maximum width of 11 feet 10 inches and a maximum height of 7 feet 7 inches. In 10 gauge steel, the main pipe would cost approximately $55 for each adult sheltered, and $30 for each child. Additional costs for entrances and for excavation would probably be an additional $10 per person. Companies which can fabricate these shelters can be found in almost any state of the Union. A shelter of this sort should be designed with one entrance inside the school building, and an emergency exit outside of the school building.

In some areas it may be practical to build reinforced concrete shelters under the schoolyard, but ordinarily the cost of such shelters tends to be considerably higher than the steel shelters.

It may be that many school boards will delay making the decision to build school shelters until a crisis in the international situation makes a thermonuclear war seem close at hand. Under such circumstances, it will probably not be possible to purchase and emplace steel or concrete shelters underground. A partial substitute for that kind of protection can then be provided, if some time is available, by placing a wall of sandbags all around the school to a height of at least seven feet and with a thickness of at least three feet. It is particularly important that all windows be covered by the sandbag wall. The emplacement of sandbags all around the school will provide protection against several effects of the hydrogen bomb. First, it will give a great deal of protection against flying glass splinters. Secondly, it will give a certain amount of protection against radiant heat which otherwise could go through the windows and cause burns and fires within. Third, a slight degree of added protection against blast might be given. Finally, a degree of protection against fallout radiation might be provided. If one assumes that in a particular school the protection factor against fallout radiation is two, then the addition of a wall of sandbags, as described, all around the school will provide for those students on the first floor a protection factor of between 10 and 20. This certainly does not match the protection factor of 100 which is considered minimal for a government approved shelter, or the protection factor of 1,000 for the underground shelter. However, it is considerably better than the protection factor afforded in the so-called "safest area in the school" and may make the difference between life and death for many of the children who remain in the school after an enemy bomb is detonated.

An additional safety feature which should be incorporated into every school at the earliest moment is the installation of ¼ inch mesh wire screening, securely fastened, inside each window

(Continued on page 298)



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Donald M. Dowell, M.D.

President's Message

March 24, 25, 26, 27. Is your reservation made? The 105th Annual Session of the Missouri State Medical Association is one that no member can afford to miss.

The scientific program covers a wide scope of fields of medicine and is directed toward improvement in the every day practice of medicine. Several specialty groups will hold separate luncheons or dinners and scientific meetings at which the specialist can delve further into his field.

Good fellowship and entertainment will be mixed with some serious thoughts at both the Sunday evening and Tuesday evening banquets.

The work of the House of Delegates cannot be without legislative information in which every member should take part, as both national and state legislation will be most important by that time. There are also some Association affairs that are of much interest to the full membership.

Hotel Muehlebach, Kansas City, March 24, 25, 26 and 27, 1963.

D. M. Dowell, M.D.

EDITORIALS

A PROGRAM FOR MANAGEMENT OF DIABETES

Many strides have been made in the early diagnosis of diabetes through the combined efforts of the American Diabetes Association, medical schools and medical centers. For example, the American Diabetes Association has had annual diabetes detection drives for the last fifteen years in order to discover diabetes early. Through these campaigns many patients who had this disorder but did not know it have been diagnosed much earlier than if discovery had occurred only when symptoms or complications developed. Unfortunately, the early discovery of diabetes is not sufficient but must be followed up by adequate care. There is no doubt but that good control reduces acute complications of diabetes and most investigators feel that it will minimize and possibly prevent chronic complications as well.

All are familiar with the medical tools at our disposal, such as diet, judicious exercise, insulin and oral drugs. At the same time a proper understanding of diabetes by the patient is of extreme importance, for this is a disorder in which active participation and a personal interest results in the best control. The patient's understanding of diabetes is a multifaceted educational effort by the physician which is best carried out early, while the patient is most receptive and before slip-shod methods or erroneous ideas develop.

In order to help physicians in teaching the basic fundamental concepts of care, the American Diabetes Association, through its Subcommittee on Teaching of Diabetes in Hospital, as part of the Committee on Professional Education, has proposed the following statement:

> "Because of its prevalence and chronicity, diabetes mellitus should be the continuing concern of all physicians, regardless of their type of practice. An essential part of treating the condition is teaching the patient how to live with it.
>
> "As in any educational program, a systematic approach should be used. Each physician should have certain specific objectives clearly in mind as he teaches his diabetic patients.
>
> "To aid him, the American Diabetes Association has prepared the following check list of nine elements of treatment, which constitutes a minimum program for diabetes management:
>
> "1. Diet.
> "2. Urine testing.
> "3. Action of insulin and other hypoglycemic agents.
> "4. Technique of insulin injection and sites for it.
> "5. Care of syringe and of insulin.
> "6. Symptoms of hypoglycemia.
> "7. Symptoms of uncontrolled diabetes.
> "8. Care of the feet.
> "9. What to do in case of acute complications.
>
> "This guide is not only of value in the initial education of a new diabetic, but can also be most helpful to both patient and physician in the subsequent years of management."

It is our belief that the combination of early detection and good care of diabetes aided by the check-list as outlined will aid in reducing further the morbidity and mortality of this widespread disorder. Every physician is urged to utilize this list as a minimum program in the management of his diabetic patients.

Henry E. Oppenheimer, M.D.
Chairman, Committee on Diabetes

INFECTIOUS DISEASES IN MISSOURI

In the last month of 1962, the infectious disease pattern in Missouri showed 10 cases of poliomyelitis as compared to 26 at the same time last year, with no new cases reported during the month. Meningococcal infections showed a total of 24 cases compared to 31 the previous year. Diphtheria showed five cases compared to one. Measles showed 1,303 cases for the year, with 42 new cases in the last month, compared to 4,769 cases the previous year. Scarlet fever showed 408 cases as compared to 762 in the previous year, with 11 new cases in the last month. Hepatitis showed a considerably lower figure of 682 compared to 1,394, with 55 new cases in the last month.

Ramblings of the Field Secretary

The St. Louis Medical Society held its 128th Annual Meeting and Installation of Officers at the Society Auditorium on Tuesday night, January 8. The session began with a short address by the retiring president, Dr. James N. Macnish. Dr. Macnish discussed briefly some of the major projects of the Society during the last year and specifically expressed his appreciation to the officers, committees and executive staff for their assistance during his year as president of the Society.

Dr. Sherwin presents Society plaque to Dr. Macnish.

The next order of business was the installation of officers for 1963 as follows: Dr. Charles S. Sherwin, President; Dr. David N. Kerr, President-Elect; Dr. Edward M. Cannon, Vice President; Dr. James W. Owen Jr., Secretary; and new Councilors, Dr. William J. Gillespie, Dr. Charles R. Gulick, Dr. Edward D. Kinsella and Dr. William F. Melick.

St. Louis Medical Society's new officers and councilors (standing) Drs. Melick, Gillespie, Cannon and Gulick; (seated) Drs. Owen, Macnish, Sherwin, Kerr and Kinsella.

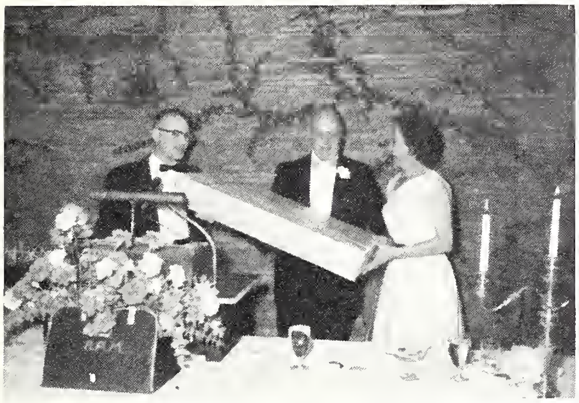
President Sherwin and past president Macnish head the receiving line.

In his inaugural address Dr. Sherwin stated that the most significant factor in the future of American medical care is the stimulation and maintenance of interest in the medical profession among qualified students. He indicated, however, that such students must feel that they will have opportunities for freedom from financial and academic road blocks if they are to be sold on going into medicine where the demands are so great. He stated that it is time the American public began giving greater recognition to those willing to sacrifice time and effort in educating themselves where they are well in position to offer great service to the people as a whole.

A large crowd attended the St. Louis Medical Society reception.

As part of his official duties as the new president, Dr. Sherwin presented the Presidential Plaque to Dr. Macnish in recognition of his service as President during 1962 to the Society. The president's reception was held in the banquet room where refreshments and music for dancing had been arranged by the Woman's Auxiliary of the Society.

On Wednesday night, January 9, the Officer's Installation Dinner Dance of the St. Louis County Medical Society was held at Le Chateau in St. Louis County beginning with a social hour at 6:30 p.m. Following an excellent dinner the formal part of the evening program was placed in orbit by the retiring President, Dr. Edgar W. Davis. Dr. Davis introduced those at the head table and others in the audience with appropriate fanfare. In his remarks as outgoing President, he summarized various activities, projects and accomplishments of the St. Louis County Medical Society during the last few years and gave due credit to many members of the Society and particularly the office staff whom he felt had contributed much to the Society. He also expressed his gratitude to the Woman's Auxiliary of the Society for all that they have done and are doing.



Dr. Mayer presented St. Louis County Medical Society gift to Dr. and Mrs. Davis.

Dr. Wyatt, Dr. Whitener and Mrs. Whitener were seated at the head table.

Dr. and Mrs. Schattyn and Dr. and Mrs. Sherwin were seated together.

He officially presented the new officers for 1963 as follows: Dr. Robert A. Mayer, President; Dr. James R. Nakada, President-Elect; Dr. Hanford Phillips, Vice-President; Dr. Edmund V. Cowdry Jr., Secretary; and new councilors, Dr. Harold J. Freiheit, Dr. Eugene Hall and Dr. Miles C. Whitener; Dr. C. Read Boles, Treasurer.

In taking over the gavel, Dr. Mayer expressed the appreciation of the Society to Dr. Davis for his able direction of the Society during the last year. To make this appreciation of the Society more concrete, he presented to Dr. and Mrs. Davis an appropriate gift which they will surely cherish for years to come. In his short inaugural address, Dr. Mayer pointed out a number of things which he felt the Society must continue to stress in its activities and stated that all efforts would be made to have Society programs to interest the membership. He expressed confidence in the committees which will serve with him in 1963 and made a plea to the entire membership for their efforts in supporting the Society and its programs.

Dinner was served at individual tables.

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and it is still my stand-by for pain relief today.”

PICTURE THE YOUNG DOCTOR with his first private patient, about thirty-five years ago. This is the moment, after years of study and guidance in classroom and at hospital bedside, when he assumes the full weight of responsibility for the well-being of his patient. He makes his diagnosis. The patient is in considerable pain, and his first concern is to relieve this discomfort. He writes a prescription for a new analgesic, a convenient drug combination that he believes will be of help. This patient (and many others to follow) finds gratifying relief, and the physician continues to rely upon this medication as the years go by.

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News—Personal and Professional

President of the medical staff of the Queen of the World Hospital for 1963 is **Samuel U. Rodgers**, M.D.; vice president is **Mark M. Marks**, M.D., and secretary-treasurer, **Florence E. MacInnis**, M.D., all of Kansas City.

Duties as chief medical consultant for the Section of Vocational Rehabilitation, State Department of Education, were assumed January 1 by **Earl L. Loyd**, M.D., Jefferson City.

The Board of Anesthesiologists named **Milton C. Peterson**, M.D., Kansas City, as president at a meeting in the fall.

Recently elected to the Board of Directors of the American Society of Anesthesiologists to represent District 17, comprising Missouri and Kansas, was **O. B. Crawford**, M.D., Springfield.

Early in January the *Columbia Tribune* carried a story of the opening of the Albert M. Keller Memorial Hospital, Fayette, with pictures of **W. A. Bloom**, M.D., Fayette, chief of staff during the establishing of the hospital. At elections in December **W. J. Shaw**, M.D., Fayette, was named chief of staff.

On January 17, Dr. and Mrs. **Jackson C. Moody**, Harrisonville, were commissioned for Methodist missionary service. Dr. Moody will do medical work in a Methodist hospital in India and Mrs. Moody will do educational work.

The staff of St. Francis Hospital, Maryville, recently named **W. R. Jackson**, M.D., Maryville, chief of staff. **E. D. Imes**, M.D., was elected assistant chief, and **H. C. Bauman**, M.D., secretary.

One of ten medical men named recently to receive Modern Medicine's Distinguished Achievement Awards for contributions which are directly influencing current medical practice and thought was **Sol Sherry**, M.D., St. Louis.

The Hospital Association of Metropolitan St. Louis has reelected **A. J. Signorelli**, M.D., St. Louis, for 1963.

The medical staff of the Cushing Memorial Hospital, Leavenworth, Kan., has elected **H. Graham Parker**, M.D., Platte City, as president.

Open heart surgery was discussed by **Hugh E. Stephenson Jr.**, M.D., Columbia, at a meeting of the Columbia Chapter of Licensed Practical Nurses at Columbia recently.

A film on "Psychiatric Care in the General Hospital" was shown at the Fortnightly Club in Columbia by **Robert E. Froelich**, M.D., Columbia.

Medical and diagnostic procedures were discussed by **John I. Matthews**, M.D., and **C. Stuart Exon**, M.D., Jefferson City, at a meeting of the Memorial Community Hospital Auxiliary in Jefferson City.

Among instructors in a course in "Expanded Surgery of the Nasal Septum and Closely Related Structures" at the Medical College of Virginia in late April at Richmond, Va., will be **Pat A. Barelli**, M.D., Kansas City, and **Daniel D. Klaff**, M.D., and **Joseph W. West**, M.D., St Louis.

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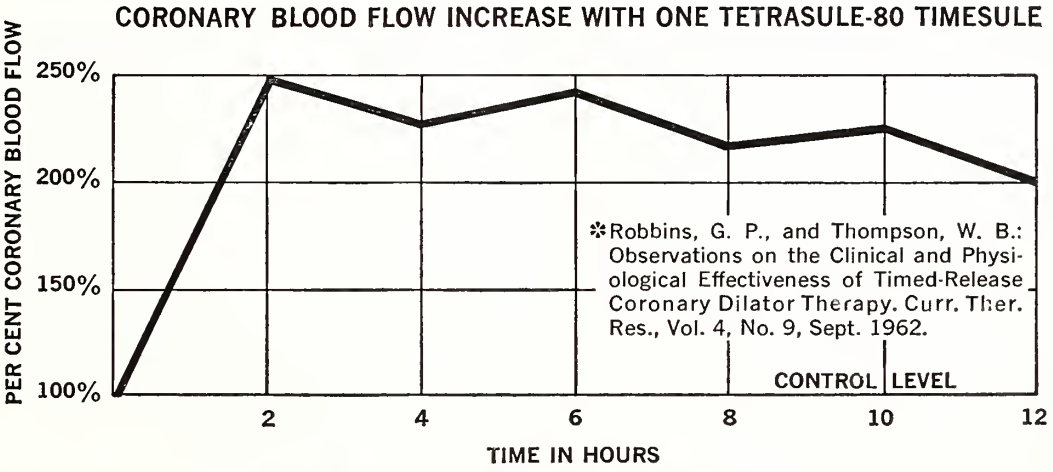

*Robbins, G. P., and Thompson, W. B.: Observations on the Clinical and Physiological Effectiveness of Timed-Release Coronary Dilator Therapy. Curr. Ther. Res., Vol. 4, No. 9, Sept. 1962.

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New Members

Phillip S. Alberts, M.D., 601 S. Brentwood, St. Louis, has become a member of St. Louis County Medical Society. Dr. Alberts is a native of Nebraska, received his preliminary education at the University of Nebraska, and his M.D. degree at the University of Nebraska in 1958.

Jack Cokrhame, M.D., 10626 Halls Ferry Rd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Cokrhame is a native of Kentucky, received his preliminary education at Lincoln Memorial University, and his M.D. degree at the University of Tennessee in 1953.

Duane E. Cozart, M.D., 52 Maryland Plaza, St. Louis, has become a member of St. Louis County Medical Society. Dr. Cozart is a native of Illinois, received his preliminary education at Washington University and the University of Chicago, and his M.D. degree at the Medical College of Virginia in 1959.

Herbert A. Curran, M.D., 1302 Faraon St., St. Joseph, has become a member of Buchanan County Medical Society. Dr. Curran is a native of Missouri, received his preliminary education at the University of Kansas, and his M.D. degree at the University of Kansas in 1959.

Jimmy E. Denton, M.D., 2900 Frederick Ave., St. Joseph, has become a member of Buchanan County Medical Society. Dr. Denton is a native of Colorado, received his preliminary education at the University of Denver, and his M.D. degree at the University of Colorado in 1957.

James A. Hasek, M.D., Cabool, has become a member of South Central Medical Society. Dr. Hasek is a native of Missouri, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1961.

Lee B. Heutel, M.D., 301 W. Highway 50, Union, has become a member of Franklin-Gasconade-Warren County Medical Society. Dr. Heutel is a native of Missouri, received his preliminary education at the University of Missouri, and his M.D. degree at the University of Missouri in 1961.

John R. Hogan, M.D., 3931 Jamieson Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Hogan is a native of Missouri, received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1959.

Edward K. Jackson, M.D., Clarksville, has become a member of Pike County Medical Society. Dr. Jackson is a native of Missouri, received his preliminary education at Union College, and his M.D. degree at Washington University in 1960.

Carl Lyss, M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis County Medical Society. Dr. Lyss is a native of Missouri, received his preliminary education at Washington University, and his M.D. degree at Washington University in 1956.

Thomas K. Mangelsdorf, M.D., 915 N. Grand Blvd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Mangelsdorf is a native of Missouri, received his preliminary education at Notre Dame, and his M.D. degree at St. Louis University in 1956.

Colleen M. Melburn, M.D., 134 W. Adams St., St. Louis, has become a member of St. Louis County Medical Society. Dr. Melburn is a native of Missouri, received her preliminary education at Washington University, and her M.D. degree at the University of Missouri in 1961.

David Miller, M.D., 216 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Miller is a native of New York, received his preliminary education at City College, New York, and his M.D. degree at Harvard University in 1953.

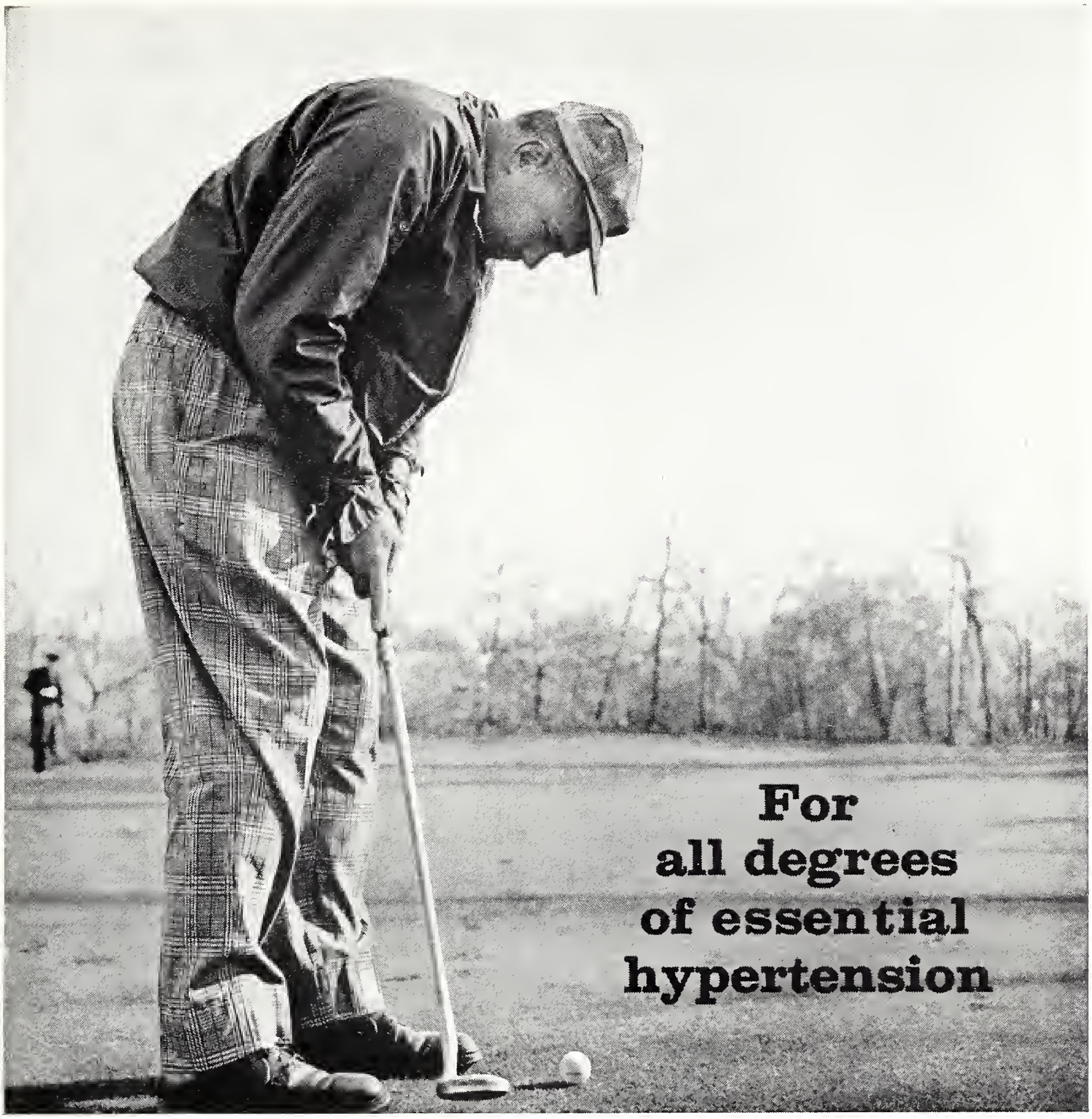
Robert L. Newman, M.D., 7721 State Line, Kansas City, has become a member of Jackson County Medical Society. Dr. Newman is a native of Kansas, received his preliminary education at the University of Kansas, and his M.D. degree at the University of Kansas in 1938.

Carlo Rao, M.D., 767 Wenneker Dr., St. Louis, has become a member of St. Louis County Medical Society. Dr. Rao is a native of Italy, received his preliminary education at Naples, Italy, and his M.D. degree at Naples in 1951.

Ralph Rehm, M.D., Bloomfield, has become a member of Semo County Medical Society. Dr. Rehm is a native of Missouri, received his preliminary education at Cape State, and his M.D. degree at the University of Tennessee in 1961.

Joseph P. Riley Jr., M.D., General Hospital, Kansas City, has become a member of Jackson County Medical Society. Dr. Riley is a native of Arkansas, received his preliminary education at Tulane University, and his M.D. degree at Tulane University in 1938.

Gilbert Ross Jr., M.D., 807 Stadium Rd., Co-



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†Hutchison J. C.: Current Therap. Res. *2*:487 (Oct.) 1960.

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lumbia, has become a member of Boone County Medical Society. Dr. Ross is a native of Illinois, received his preliminary education at the University of Michigan, and his M.D. degree at the University of Michigan in 1954.

Robert L. Sample, M.D., Mansfield, has become a member of South Central Medical Society. Dr. Sample is a native of Oregon, received his preliminary education at LaSierra College and his M.D. degree at the College of Medical Evangelists in 1961.

Anwar Shah, M.D., 4424 Hampton Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Shah is a native of Burma, received his preliminary education at the University College, Rangoon, and his M.D. degree at King Edward Medical College, Pakistan, in 1949.

John M. Singleton III, M.D., 4320 Wornall Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Singleton is a native of Missouri, received his preliminary education at Washington University, and his M.D. degree at Washington University in 1957.

Richard L. Sutton Jr., M.D., 411 Nichols Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Sutton is a native of Missouri, received his preliminary education at the University of Michigan, and his M.D. degree at the University of Michigan in 1929.

Mary A. T. Tillman, M.D., 4255 St. Louis St., St. Louis, has become a member of St. Louis Medical Society. Dr. Tillman is a native of Oklahoma, received her preliminary education at Harvard University, and her M.D. degree at Harvard University in 1960.

Robert H. Vanderpearl, M.D., 225 S. Meramec Ave., St. Louis, has become a member of St. Louis County Medical Society. Dr. Vanderpearl is a native of Illinois, received his preliminary education at Washington University and his M.D. degree at Washington University in 1954.

William L. Walter, M.D., 135 W. Adams St., St. Louis, has become a member of St. Louis County Medical Society. Dr. Walter is a native of Ohio, received his preliminary education at DePauw University, and his M.D. degree at Ohio State University in 1954.

Harry E. Webb, M.D., 330 W. 47th St., Kansas City, has become a member of Jackson County Medical Society. Dr. Webb is a native of Minnesota, received his preliminary education at the University of Kansas, and his M.D. degree at the University of Kansas in 1956.

DEATHS

Holman, Jurney H., M.D., Fulton, a graduate of the University of Missouri, 1898; member of North Central Medical Society; aged 90; died December 14, 1962.

Woodruff, Frederick E., M.D., St. Louis, a graduate of State University of Miami, 1897; member of St. Louis Medical Society; aged 91; died December 28, 1962.

Sterling, Charles E., M.D., St. Louis, a graduate of St. Louis University, 1928; member of St. Louis County Medical Society; aged 61; died December 29, 1962.

Weger, Carl C., M.D., Keytesville, a graduate of St. Louis University, 1921; member of Chariton-Macon-Monroe-Randolph County Medical Society; aged 68; died January 3, 1963.

Henrickson, Hardin M., M.D., Poplar Bluff, a graduate of the University of Louisiana, 1911; member of Butler-Ripley-Wayne County Medical Society; aged 78; died January 5, 1963.

Eidman, Walter P., M.D., St. Louis, a graduate of Beaumont Medical College, 1894; member of St. Louis Medical Society; aged 89; died January 5, 1963.

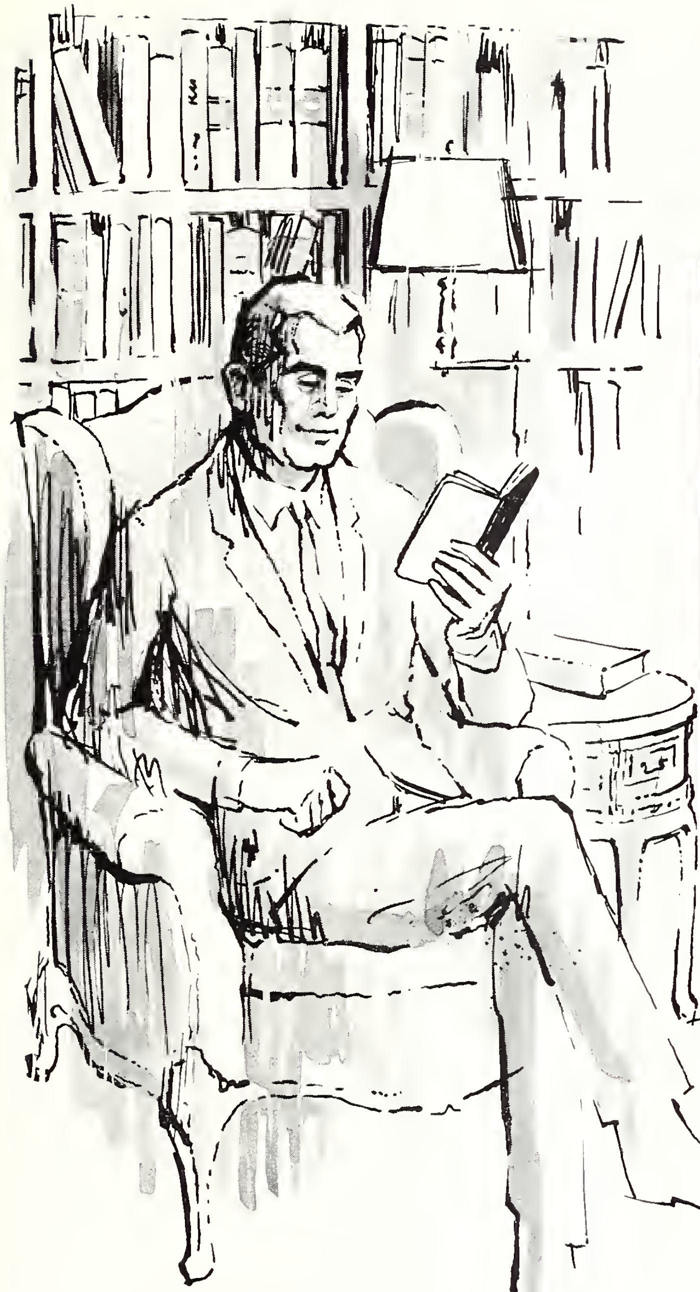
Long, Charles L. Jr., M.D., St. Louis, a graduate of St. Louis University, 1959; member of St. Louis Medical Society; aged 30; died January 7, 1963.

Bridges, James R., M.D., Kahoka, a graduate of the Keokuk College of Physicians and Surgeons, 1888; member of Lewis-Clark-Scotland County Medical Society; aged 99; died January 15, 1963.

Bee, James E., M.D., Mission, Kansas, a graduate of Tennessee University, 1928; member of Jackson County Medical Society; aged 61; died January 18, 1963.

Roe, Allen, M.D., Berger, a graduate of Washington University, 1925; member of St. Louis Medical Society; aged 63; died January 27, 1963.

Allen, Charles H., M.D., Kansas City, a graduate of St. Louis University, 1913; member of Jackson County Medical Society; aged 78; died January 29, 1963.



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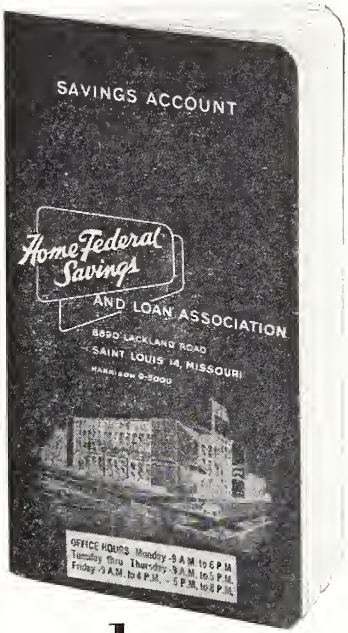
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MISSOURI STATE MEDICAL ASSOCIATION

105th Annual Session

Hotel Muehlebach, Kansas City

March 24, 25, 26, 27, 1963

Sunday, March 24, 1963

1:30 p.m. House of Delegates, Colonial Room.

3:30 p.m. Reference Committee meetings, Parlor A, Rooms 3, 4, 362, 363, 364.

6:30 p.m. Dinner, Committee on Diabetes and Missouri Diabetes Association, Room 364.
Henry E. Oppenheimer, M.D., St. Louis, Presiding.
Speaker, Victor E. Pollak, M.D., Chicago.

7:00 p.m. Dinner, Sponsored by Woman's Auxiliary, Colonial Room.
AMPAC and the Need for State PACS, Don E. Wood, M.D., Indianapolis, Ind.
Entertainment.

Monday, March 25, 1963

8:00 a.m. Registration, Grand Ball Room.

9:00 a.m. Panel: What's New, Colonial Room.
Moderator: Maxwell G. Berry, M.D., Kansas City.
Anesthesia: C. R. Stephen, M.D., Durham, N. C.
Medicine: Leon O. Jacobson, M.D., Chicago.
X-Ray: Armand E. Brodeur, M.D., St. Louis.
Traumatic Surgery: Richard M. Kilfoyle, M.D., South Weymouth, Mass.

10:30 a.m. Intermission to View Exhibits.

Scientific Session, Colonial Room.
Donald M. Dowell, M.D., Chillicothe, Presiding.

11:00 a.m. Hypothermia, C. R. Stephen, M.D., Durham, N. C.

11:30 a.m. Treatment of Renal Failure, Norman W. Carter, M.D., Dallas, Texas.

12:00 noon. 50 Year Club Luncheon.

12:00 noon. Committee on Maternal Welfare Luncheon, Trianon Room.
Case Reports: Septic Shock.
Discussion: Duncan E. Reid, M.D., Boston.
Sponsored by the Committee on Maternal Welfare and the Kansas City Gynecological Society.

Medical Session, Rooms T21, T22.
Robert E. Koch, M.D., St. Louis, Presiding.

2:00 p.m. The Kidney in Diabetes, Victor E. Pollak, M.D., Chicago.
Sponsored by the Missouri Diabetes Association.

2:30 p.m. Clinical Aspects of Renal Disease, Norman W. Carter, M.D., Dallas, Texas.

3:00 p.m. The Kidney in Erythropoiesis, Leon O. Jacobson, M.D., Chicago.
Sponsored by the Missouri Society of Internal Medicine.

Surgical Session, Colonial Room.
Ralph R. Coffey, M.D., Kansas City, Presiding.

2:00 p.m. Surgical Treatment of Mitral Stenosis, Frank Glenn, M.D., New York.
Sponsored by the Missouri State Surgical Society.

2:30 p.m. Subcutaneous Prostheses, J. Barrett Brown, M.D., St. Louis.

3:00 p.m. The Care of Cervical Spine Fractures, Richard M. Kilfoyle, M.D., South Weymouth, Mass.

3:30 p.m. Intermission to Visit Exhibits.

3:30 p.m. Annual Meeting, Missouri Society of Internal Medicine, Room 362.

4:00 p.m. House of Delegates, Colonial Room.

4:45 p.m. Reference Committee meetings, Parlor A, Rooms 3, 4.

6:30 p.m. Dinner, Missouri State Surgical Society, Downtown Club.
Ralph R. Coffey, M.D., Kansas City, Presiding.
Complications of Biliary Tract Surgery, Frank Glenn, M.D., New York.

6:00 p.m. Cocktails and Dinner, Missouri Society of Internal Medicine, Room 364.
Robert E. Koch, M.D., St. Louis, Presiding.
8:00 p.m. Panel: The Business Side of Medicine.
Moderator: Glenn O. Turner, M.D., Springfield.
Panelists:
Mr. Wayne B. Conwell, St. Louis, President, Professional Management, Inc.
Mr. Glenn C. Kreamer, Kansas City, Assistant Manager, Professional Management Midwest.
Mr. Floyd F. Wehrenberg, Kansas City, Southern Division Manager, Professional Management Midwest.

6:00 p.m. Dinner, Kansas City Gynecological Society, Embassy Restaurant.

6:00 p.m. Dinner, Missouri Radiological Society, Trianon Room.
Speaker: T. J. Wachowski, M.D., Aurora, Ill., President, American College of Radiology.

Tuesday, March 26, 1963

8:00 a.m. Registration, Grand Ball Room.

9:00 a.m. Panel: Newer Laboratory Tests, Colonial Room.
Moderator: Eugene F. Tucker, M.D., St. Louis.
Thyroid Function Tests, William H. Beierwaltes, M.D., Ann Arbor, Mich.
Clinical Laboratory Interpretations of Electrophoresis, Paul E. Hermans, M.D., Rochester, Minn.
Clinical Value of Newer Enzyme Tests, Felix Wroblewski, M.D., New York.

9:00 a.m. Panel: Cystic Fibrosis, Room T22.
Moderator: Peter G. Danis, M.D., St. Louis.
Prevention and Treatment of Nutritional Deficiency and Infections: Antibiotics and Digestive Enzymes, Gunyon M. Harrison, M.D., Houston, Texas.
Anatomic Pathology, Drummond Bowden, M.D., St. Louis.
Pulmonary Physiology: Discussion of Mucolytic Agents, Herman W. Reas, M.D., St. Louis.
Frequency of Occurrence of the Disease and Diagnosis with Emphasis on Pilocarpine Iontophoresis for Sweat Collection, Charles C. Lobeck, M.D., Madison, Wis.

10:30 a.m. Intermission to View Exhibits.

Scientific Session, Colonial Room.
C. G. Stauffacher, M.D., Sedalia, Presiding.

11:00 a.m. New Virology, Frederick C. Robbins, M.D., Cleveland.

12:00 noon. University of Missouri Medical Alumni Association Luncheon, Trianon Room.
Virgil Jeans, M.D., Joplin, Presiding.
Presentation of the Eighth Citation of Merit of the University of Missouri to a Medical Alumnus, Frederick C. Robbins, M.D., Cleveland.
Remarks by Frederick C. Robbins, M.D., Cleveland.

Scientific Session, **Colonial Room.**
E. L. Spence, M.D., Kennett, Presiding.

2:00 p.m. Autoimmune Disease, William H. Beierwaltes, M.D., Ann Arbor, Mich.

2:30 p.m. The Surgical Aspects of Parkinson's Disease, Claude Bertrand, M.D., Montreal, Quebec, Canada.

3:00 p.m. Intermission to View Exhibits.

3:30 p.m. Panel: Cancer of the Breast.
Moderator: John J. Modlin, M.D., Columbia.
Panelists:
John W. Pickren, M.D., Buffalo, N. Y.
William T. Moss, M.D., Chicago.
Charles Eckert, M.D., Albany, N. Y.
Sponsored by the Missouri Chapter, American Cancer Society.

3:30 p.m. Panel: Heart Disease.
Moderator: James G. Janney, M.D., St. Louis.
The Present Status of External Cardiac Massage, James R. Jude, M.D., Baltimore.
External Electric Countershock, Paul M. Zoll, M.D., Boston, Mass.
Sponsored by the Missouri Heart Association.

5:30 p.m. Washington University Medical Alumni Association Cocktail Party, Room T22.

5:30 p.m. St. Louis University Medical Alumni Association Cocktail Party, Music Room.

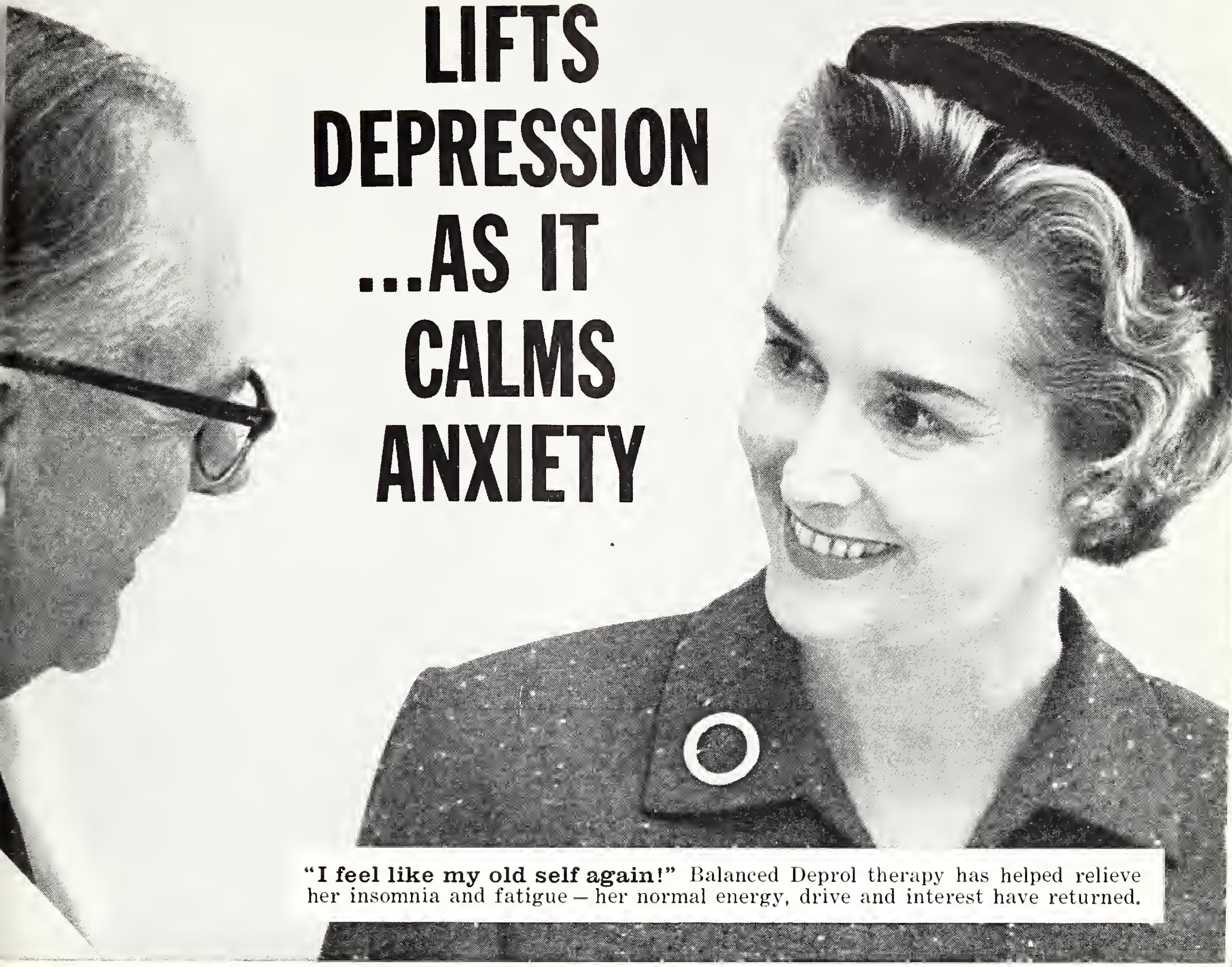
7:30 p.m. Annual Banquet in Honor of Past Presidents.
Donald M. Dowell, M.D., Chillicothe, President, Presiding.
Let's Sell Success, Kenneth McFarland, Ph.D., Topeka, Kansas.

Wednesday, March 27, 1963

7:30 a.m. House of Delegates Breakfast Meeting, Colonial Room.

9:30 a.m. Intermission to View Exhibits.

10:00 a.m. Panel: Malpractice and You, Trianon Room.
Moderator: Charles B. Wheeler, M.D., Kansas City.
Panelists:
Mr. John M. Kilroy, Kansas City, How to Keep From Being Sued.
Mr. Roy F. Carter, Kansas City, What to Do If You Are Sued.
Question and answer period.



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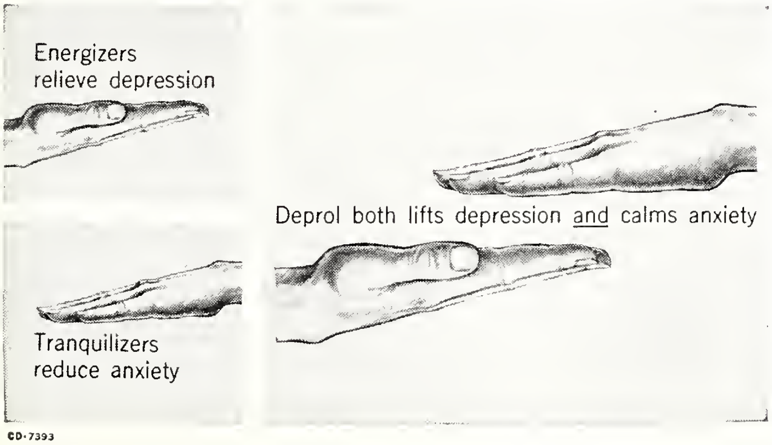

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County Society News

FIRST DISTRICT

JOSEPH L. FISHER, ST. JOSEPH, COUNCILOR

Buchanan County Medical Society

Seventy-five doctors from St. Joseph, Northwest Missouri, Northwest Kansas and Southeast Nebraska attended the January 9 meeting of the Buchanan County Medical Society in the Empire Room of Hotel Robidoux, St. Joseph.

The speaker was I. S. Ravdin, M.D., president of the American Cancer Society and surgeon-in-chief and professor of surgery at the University of Pennsylvania Medical School. Dr. Ravdin discussed "Cancer of the Colon." In discussing the most prevalent form of cancer, he emphasized the need for a perfectly clean colon in surgery of this area and also the wide extirpation of the intestine where polyps are found to be malignant. Excising would suffice, he indicated, where the polyp was found on a long pedicule.

Dr. John R. McDaniel presided at the meeting. Dr. Charles R. Willman, program chairman, called on Dr. Wilbur P. McDonald who studied under Dr. Ravdin, to introduce the speaker. Dr. and Mrs. McDonald had a reception in their home following the meeting to honor Dr. Ravdin. The Philips Roxane Co. of St. Joseph sponsored Dr. Ravdin's appearance.

William Redmond, M.D., *Secretary*

Grand River Medical Society

The Grand River Medical Society and its Woman's Auxiliary held a dinner meeting at the Strand Hotel on Thursday night, January 10. Following dinner, the Auxiliary retired to another meeting place for a separate program.

The scientific presentation to the doctors was given by Gordon C. Sauer, M.D., Professor of Clinical Dermatology, University of Kansas School of Medicine, Kansas City, Kansas. In his presentation Dr. Sauer categorized some of the most common skin diseases and discussed the diagnosis and most recent treatment. His was an excellent presentation.

Jack L. Vinyard, M.D., *Secretary*

SECOND DISTRICT

A. P. ROWLETTE, MOBERLY, COUNCILOR

Chariton-Macon-Monroe-Randolph County Medical Society

The Chariton-Macon-Monroe-Randolph County Medical Society held its regular monthly meeting at Woodland Hospital on Thursday night, January 10, with the president, Josephine Baker, M.D., presiding.

A special memorial tribute was paid to Dr. C. C. Weger of Keytesville, a long standing member and past president of the Society who died January 3, 1963.

The scientific program for the evening consisted of "Interesting and Unusual Cases" presented by members of the Society. A case of Marfan's syndrome was presented. Also given were cases of Morton's neuroma, removal of a large piece of metal that passed through a heavy shoe and the foot, congenital heart disease in a child, a case of Guillain-Barré-Landry paralysis, some new technics in testing for food allergies and the use of a new instrument for determining blood pressure in the legs termed the Mercury strain-gauge plethysmograph.

The Society unanimously endorsed the proposed state mental health program of Dr. George Ulett, Director of the Division of Mental Diseases of Missouri, for active treatment centers for mental illness.

Those present were: Drs. E. E. Eggleston, James Campbell and Carl Rinker, Macon; Drs. Josephine Baker, Avery P. Rowlette, J. Will Fleming Jr., Thomas S. Fleming, Robert Young, W. Deward Chute, C. C. Cohrs, S. R. Szymanski, C. C. Smith, L. E. Huber, Robert Hasson, Moberly; Dr. P. V. Dreyer, Huntsville; Dr. F. L. Harms, Salisbury, and Dr. F. A. Barnett, Paris.

J. Will Fleming Jr., M.D., *Secretary*

FOURTH DISTRICT

PAUL R. WHITENER, ST. LOUIS, COUNCILOR

Lincoln-St. Charles County Medical Society

Despite inclement weather, a dinner meeting of the Lincoln-St. Charles County Medical Society was held at the Golf View Inn in St. Charles on Tuesday evening, January 22.

A well received scientific discussion was presented by Frank A. Palazzo, M.D., St. Louis, Section of Neurosurgery, St. Louis University Medical School. Dr. Palazzo spoke on "The Intervertebral Disc Syndrome." This was a subject of considerable interest.

At the business part of the meeting the election of officers for 1963 was consummated as follows: President, Robert Keller, M.D., Wentzville; Vice-

President, V. P. Muenster, M.D., St. Charles; Secretary, Robert Fleming, M.D., St. Charles; Delegate to MSMA from St. Charles County, John Commerford, M.D., St. Charles; Alternate, S. A. Yaeger, M.D., St. Charles; Delegate from Lincoln County, E. O. Dameron, Elsberry; Alternate, Joseph Creech, M.D., Troy.

V. P. Muenster, M.D., *Secretary*

SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

Henry, Johnson, Pettis, Saline, Lafayette-Ray County Medical Societies

Sixty-two people including doctors, their wives and detail men of the area attended a joint dinner meeting of the Henry, Johnson, Pettis, Saline, Lafayette-Ray and adjacent county medical societies at the Pacific Cafe in Sedalia, on Wednesday night, January 16.

Drs. Brazos, Brooke, Engley and Edwards, officers and speakers posed.

The evening festivities were initiated by a social hour followed by dinner and then the program. The ladies held a separate program where they were privileged to view some of the latest wigs designed for feminine attire.

The scientific program was one of considerable interest to the physicians present and was entitled, "Practical Problems in the Use of Antibiotics." Clement E. Brooke, M.D., Professor and Acting Chairman, Department of Pediatrics, and Frank B. Engley Jr., Ph.D., Professor and Chairman, Department of Microbiology, University of Missouri Medical School, discussed this subject in an informal, practical manner. Questions from the audience were posed and answered during the discussion. The interest manifested in this particular program is best described by stating that the discussion had to be halted because of lateness of the hour. Physicians present who should have received a prize for greatest distance traveled to the meeting were John Crowe, M.D., Cape Girardeau, vice-president, Missouri Academy of General Practice, and Robert Laffoon, M.D., Illmo, Mo.

The audience exhibited much interest in the program.

John C. Brazos, M.D., *Secretary*,
Pettis County Medical Society

Lafayette-Ray County Medical Society

The January meeting of the Lafayette-Ray County Medical Society was held on January 8, 1963, at the Maib's Cafe, Lexington. The meeting consisted only of a social hour and dinner meeting. No business meeting was held. No education program was scheduled for this meeting. Following dinner the meeting was adjourned.

Wayne Boydston, M.D., *Secretary*

Pettis County Medical Society

The Pettis County Medical Society held its Christmas Party at the Old Missouri Homestead, December 17, for the members and their wives. The evening festivities began with a social hour, followed by a delicious dinner. After dinner, Dr. Lamy, president, gave a few remarks pertaining to the activities and accomplishments during the tenure of his office as president during 1962. He then turned the meeting over to Dr. A. R. Maddox, Secretary, who read the list of the newly elected officers for the ensuing year, 1963.

The ballots had been kept a secret until this particular hour. Those elected were as follows: President, Dr. D. R. Edwards; Vice-president, Dr. T. J. Hopkins; Secretary, Dr. John C. Brazos; Treasurer, Dr. C. H. Brady; Delegate, Dr. C. Gordon Stauffacher; Alternate, Dr. A. L. Lowe.

After this part of the program was completed the group continued to socialize and enjoy themselves.

Albert R. Maddox, M.D., *Secretary*

West Central Missouri Medical Society

The January meeting of the West Central Missouri Medical Society was held at the Country Club, Nevada, January 10, with the newly elected President, Edward Jones of Harrisonville, presiding. The usual social hour was enjoyed visiting with various members before enjoying the fine steaks usually served by the Club dining service.

Owing to the fact that our speaker, who brought along his charming wife, had a long trip back to Columbia, Dr. Jones presented Dr. Lester E. Wolcott, Chief, Section of Physical Medicine and Rehabilitation at the University of Missouri School of Medicine, who spoke upon this important phase of medicine which has been neglected by the profession. Dr. Wolcott made a fine presentation of his subject. It is felt that everyone left the meeting that night with more concern over those hemiplegics left to develope helpless contractures which a few splints, massages and heat might have made less crippling.

Following the talk by Dr. Wolcott, we turned to the business at hand with the reading of the minutes. Secretary-treasurer, Dr. Luter, made a report on the finances stating that we start 1963 with $1,307.58 as compared to $1,017.69 in January 1962 and with $1,163.71 in 1961, so we are, with the increase of our dinners from $3.00 to $4.00 and with increase of dues from $15.00 to $25.00, carrying the additional expenses of the Athletic symposiums each fall which cost about $350.00 and some additional contributions we have made in the interest of organized medicine.

Transfer of Dr. Orr Mullinax from Marshall, Saline County, to this Society has been completed. Dr. Mullinax is with State Hospital No. 3 and some years ago was here as a member. We welcome him and his wife back to our group. Dr. Stanley Kern has transferred to Oregon where he is now in practice. Phillip Shepherd who was with Dr. Robert Magee in Eldorado Springs, for a short while and moved to Ava, Missouri, passed away recently.

It was voted to skip the March meeting since it will fall so close to our State Association meeting date. Our Society voted to donate $100.00 to Dr. Jack Moody, our member from Harrisonville, who leaves this month for India with his family to take over the Missionary Doctor's role in a hospital there. Best wishes go with Jack and family. The donation is to be applied to the purchase of a jeep for making his rounds in the rural areas.

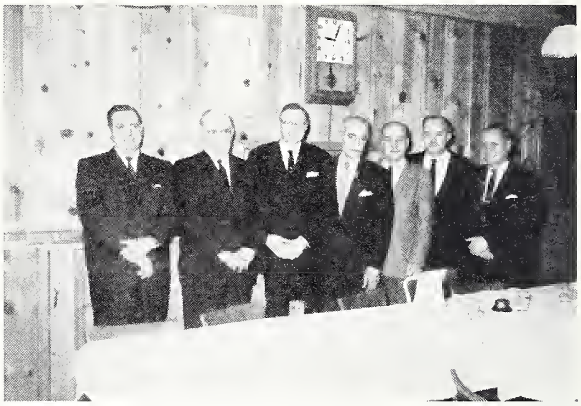
Carter W. Luter, M.D., *Secretary*

NINTH DISTRICT

E. A. STRICKER, ST. JAMES, COUNCILOR

Mid-Missouri County Medical Society

Thirty-five people including doctors, their wives and guests attended the dinner meeting of the Mid-Missouri Medical Society in the Pine Room, Greyhound Bus Station, Rolla, on Thursday night, January 24. Following a delicious dinner and a number of introductions, President Bass presented the featured speaker of the evening, George A. Ulett, M.D., Acting Director, Missouri Division of Mental Diseases.



Representative Steelman, Mayor Northern, Drs. Ulett, Summers, Underwood, Bass and Stricker posed for a picture.

Dr. Ulett spoke on the subject "Missouri's Proposed New Mental Health Program." His pres-

Dr. Ulett was the speaker.

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Doctors' wives were also in attendance.

entation of the proposed program was most forceful and was unusually well received by those privileged to hear him. His proposal to establish three rapid treatment centers, one in Kansas City, one in Columbia and one in St. Louis, was presented with much logic and facts and figures to back up the idea. His explanation and description of the mental health care picture in the state today certainly gives much food for thought.

Among guests present were Mayor Northern of Rolla and Mr. D. L. Steelman, Salem, representative of Dent County.

M. K. Underwood, M.D., *Secretary*

TENTH DISTRICT

W. D. ENGLISH, CARDWELL, COUNCILOR

Mineral Area County Medical Society

Hubert A. Ritter, M.D., St. Louis, Assistant Professor of Clinical Obstetrics and Gynecology at St. Louis University Medical School, spoke before a meeting of the Mineral Area County Medical Society, Thursday night, January 24, at the State Hospital in Farmington. Dr. Ritter presented a most interesting and informative discussion of the subject, "The Problem of Sterility."

Paul Dennis, M.D., *Secretary*

ACROSS MISSOURI

(Continued from page 220)

- The program for the in-patient care of mentally and emotionally disturbed children has gone forward in the hospitals at St. Louis, Fulton and St. Joseph.
- A section on mental retardation has been established, and detailed planning for expansion of facilities for the care of the mentally retarded is well advanced.
- A landmark in Missouri's progress in the field of Mental Health occurred in October, 1962, when the Missouri Institute of Psychiatry at the St. Louis State Hospital was dedicated. Housed in the most modern of facilities, this organization of highly trained clinical and research scientists will explore new horizons in the diagnosis and treatment of the mentally ill.
- The central office has continued to integrate and coordinate the state-wide activities of the Division of Mental Diseases.
- Despite all of this, the most pressing problems in the mental hospitals today remain (1) the overcrowding due to an accumulation of chronic patients, and (2) the serious shortage of professional personnel to direct any program of treatment and rehabilitation.
- To attack these basic problems, Dr. Ulett and his staff have come forth with a plan which it is felt will make it possible to cope with the problem of overcrowding and shortage of professional personnel.
- The plan for three intensive treatment hospitals located at Kansas City, Columbia and St. Louis, adjacent to medical schools and training centers is a sound one in every respect.
- Rapid treatment for acute mental illness with early rehabilitation and return to the community offers the best solution to the serious problem of overcrowding in the State Hospitals.
- Training of psychiatric physicians, nurses and other mental health workers will go hand in hand with this program and will offer the best hope for solving the problem of professional shortages in the hospitals.

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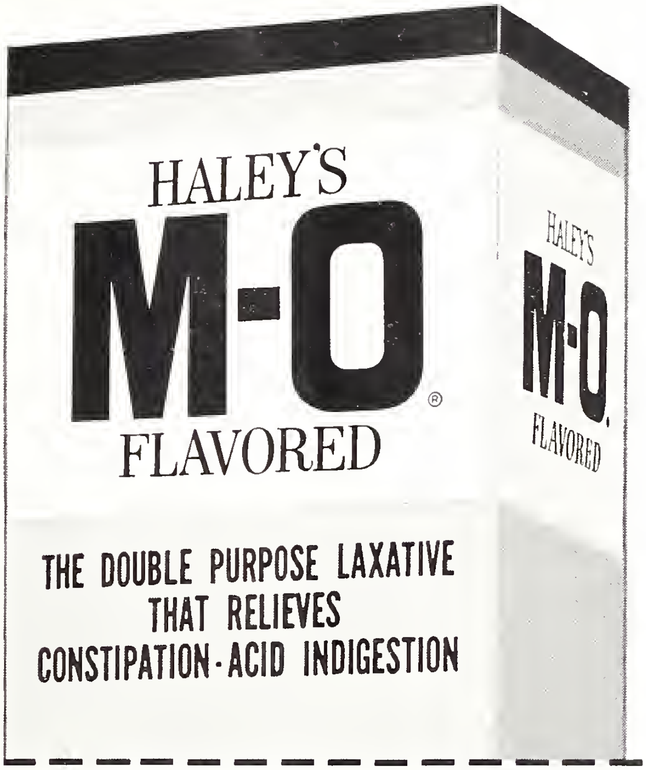
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The Council

The Council met at the Park Plaza Hotel, St. Louis, February 2-3, 1963, with Leonard T. Furlow, M.D., St. Louis, Chairman, presiding. Those present were Drs. Furlow; Joseph L. Fisher, St. Joseph; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; O. B. Barger, Harrisonville; Hector W. Benoit Jr., Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Donald M. Dowell, Chillicothe; Kenneth C. Hollweg, Kansas City; Charles R. Doyle, St. Louis; Joseph V. Finnegan, St. Louis; H. M. Hardwicke, Jefferson City; Vernon E. Wilson, Columbia; John McLeod, Kansas City; William Perry, St. Louis; Messrs. Jordan Singleton, Lemoine Skinner, Vince Sanders, Edgar Mothershead, Tom P. Fox, Ray McIntyre, Tom R. O'Brien, St. Louis; Helen Penn, St. Louis; Frank Woolley, Chicago; Gary Schnedler, Springfield.

MISSOURI SOCIETY OF INTERNAL MEDICINE

Mr. O'Brien presented a letter from the Missouri Society of Internal Medicine asking permission to use the Association address as a central address for their society; also help might be obtained at times on mailing for which they would pay.

On motion of Dr. Hollweg, duly seconded, this was approved.

A letter from Dr. Kenneth McFarland, banquet speaker, asking permission to announce a recording he had made at the banquet was approved without motion.

A letter from the incoming president of the Woman's Auxiliary asking that an advisory committee composed of Drs. Vernon Wilson, C. Russell Smith, Kenneth C. Hollweg, Durward G. Hall and Martyn Schattyn be approved for next year was approved without motion.

AMEF

Mr. O'Brien said that the Committee on AMEF was asking that it be dissolved since the solicitations were coming directly from the Chicago office, and since the Missouri Medical Education Foundation had been established.

On motion of Dr. Fisher, duly seconded, it was voted that the Committee be abolished, being a Committee established by the Council.

Attention was called to a misleading advertisement of a chiropractic hospital in one of the metropolitan newspapers and that protest was made and that the newspaper said they would not accept it again.

It was announced that the company handling accident insurance for members of the Association wished to broaden the coverage, but it was decided that this should be studied further.

FIELD SECRETARY'S REPORT

Mr. McIntyre called attention to a number of excellent meetings that had been held since the last Council meeting, some of them installation meetings, some postgraduate sessions at the University of Missouri. He also gave a listing of meetings that would occur in the near future. He called attention to the meeting on "Medical Quackery" to be held in Jefferson City on May 1 and presented the make-up of the program to date. He presented an excerpt from the Washington Report on Medical Sciences on "Generation of Change" as follows:

"Between 1931 and 1962 the number of M.D.'s engaged in private practice dropped from 85 per cent to 66 per cent. Physicians engaged in teaching, administration, hospital work, research and preventive medicine rose from 7 per cent to 15 per cent. Internship and residency trainees in same period increased from 5 to 15 per cent. There has been no mentionable change in percentage (4 to 5, fluctuating) of M.D.'s who are retired or not in practice.

"Of 68,297 board diplomates recorded last year, 65,047 were in full time practice of their specialties; 1,005 practiced it part time; 398 were in general practice and 1,847 out of practice . . . 98 per cent of specialists in colon and rectal surgery are in clinical practice, while only 9 per cent of those accredited in administrative medicine are in clinical work . . . 8 per cent of all full time specialists are on Federal payrolls . . . 5 per cent are female, 58 per cent are under 45, 1.3 per cent are nonwhite, 11 per cent serve on medical school faculties. New York State's ratio of 121 per 100,000 population is first among states."

POLIO VACCINE

Dr. Hardwicke discussed the Sabin and Salk vaccines for polio and said that the U.S.P.H.S. had changed its position to a go-ahead on the giving of type III Sabin vaccine but that only the Salk vaccine was being recommended by the Missouri Division of Health.

REPORT OF COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

The following report of the Committee on Medical Education and Hospitals which met on January 27 was presented:

Presiding—William A. Knight Jr., M.D., St. Louis, Chairman.

Present—Drs. Knight; Ralph Perry, Kansas City; Vernon E. Wilson, Columbia; Guy N. Magness, St. Louis; and Messrs. Vincent Sanders, Jordan Singleton, T. R. O'Brien, and Tom P. Fox, St. Louis.

Purpose—The Council of MSMA has requested this committee's suggestions considering the special report on "Compensation of Interns and Residents" submitted to the AMA House of Delegates at its Interim Session in Los Angeles, November 25-28, 1962, appearing on page 459, JAMA, October 27, 1963. This special report was considered by the reference committee on Medical Education and Hospitals of the House as a progress report with more definitive action to be taken at the AMA meeting in June of 1963.

Following discussion, it was agreed that the Chairman and Executive Secretary should prepare a questionnaire for distribution to hospitals in Missouri which conduct Intern and Resident programs. This questionnaire will request information regarding salary and maintenance compensation for interns and residents in Missouri. In addition, all county medical societies will be asked to send their ideas about this matter to the Committee.

Mr. O'Brien said that a further report would be made to the Council after returns from the questionnaire had been received.

CLAY COUNTY

A letter dealing with membership in Clay County was read pointing out that some physicians in Clay County had not been admitted to membership in the Clay County Medical Society. After discussion in which it was brought out that only component societies can decide concerning membership and not the Association itself, it was agreed that some help and advice from the Council might be of aid, to both the society and those asking admittance.

Upon motion of Dr. Fisher, duly seconded, it was voted that a committee be appointed by the chairman of the Council to study the situation, getting accurate and adequate information on both sides, with the aid of legal advice, and report back to the Council. The Chairman appointed the following committee: Dr. Stuart, Chairman, Dr. Fisher and Dr. Benoit.

COMMITTEE ON EYE HEALTH

Dr. McLeod presented the following report of the Committee on Eye Health of a meeting held in Jefferson City on December 16:

Presiding—John McLeod, M.D., Kansas City, Chairman.

Present—Drs. McLeod; Michael Pernoud, St. Louis; H. B. Stauffer, Jefferson City; Dick H. Underwood, Kansas City; John Buesseler, Columbia; H. B. Ivy, Springfield; and Paul G. Wolff, Cape Girardeau.

Excused—Drs. D. E. Eggleston, Macon; W. L. Post, Joplin; Paul M. Beck, St. Joseph; Robert S. Minton, St. Joseph.

Proposed Optometric Act—The Committee considered the proposed House Bill, dealing with Sections 336.100, 336.140 and 336.160, and the proposed Senate Bill, dealing with a revision of 336.080, which had been submitted by the Missouri Optometric Association.

Following discussion, it was agreed unanimously that MSMA has no reason to oppose either of the proposals since they do not deal specifically with the definitions of optometry or the scope of practice of optometry. It was agreed that Mr. O'Brien should convey that opinion to the Administrative Secretary of the Optometric group, Mr. Forrest Wallace.

Meeting With Optometric Committee—Following luncheon, the Committee met with members of the Optometric group to discuss non-legislative matters, as per request attached.

Dr. Cable, Joplin, presented three specific items and recommended that Joint Committees be established to discuss them. They were:

a. "External Commercialism," for example, King Optical Co.

b. School Screening Programs.

c. Research Programs.

After a brief discussion, the two committees went into Executive Session. It was agreed that a letter be written to Dr. Cable, requesting a written analysis of the three items for later consideration of the Committee.

Dr. McLeod asked advice of the Council on whether or not further meetings should be held with the optometrists. On motion of Dr. Benoit, duly seconded, it was voted that channels of communication should be continued through the Committee on Eye Health but that no special subcommittee should be set up.

REPORT OF THE COMMITTEE ON CIVIL DEFENSE DISASTER MEDICAL CARE

Mr. Fox presented the report of the Committee meeting in Jefferson City on January 13 as follows:

Presiding—Carl D. Siegel, M.D., Sedalia, Chairman.

Present—Drs. Siegel; Oscar P. Hampton Jr., St. Louis; J. S. Sanders, Jefferson City; Herbert D. Steinbeck, Union; David W. Hall, Springfield; H. M. Hardwicke, Jefferson City; Mr. Kenneth Mayfield, Jefferson City; Mr. Tom Fox and Helen Penn, St. Louis.

AMA Conference—Chairman reported on 13th County Medical Society Conference conducted November 3-4, 1962, in Chicago.

State Programs—Dr. Siegel reported on programs he conducted or attended across the state.

Mo-Kan—Dr. Hungate telephoned to excuse his absence and reported activity of Jackson County area, in particular, the Mo-Kan Civil Defense Program.

Mo. U. Course—Chairman announced plans for a three day course in civil defense and mobilization, open to organizations and individuals, in a six state area. Facilities will provide for 200 persons.

Chemical and Biological Warfare Institutes—Dr. Siegel announced a series of five day institutes in February, March, April, May and June, at U. S. Army Chemical Corps School, Ft. McClellan, Alabama. Applicants should apply to Public Health Service.

AMA Department of National Security—AMA is planning an itinerary of States in spring of 1963. If committee invitation is accepted our next meeting will be held in St. Louis, May 19, 1963.

State Civil Defense Office—Mr. Mayfield explained the liaison between State Civil Defense office and Missouri Division of Health. The five district Public Health offices include Civil Defense Service.

Emergency Hospitals 200 Beds C.D.E.H.—The chairman stated the need for training exercises in use of emergency hospitals. Mr. Mayfield reported that Missouri now has 72 emergency hospitals, of which 69 are stored and one each set up for training, in Kansas City, Jefferson City and West Plains. One additional will be set up soon, in Springfield as a community exercise. In Carrollton on January 20, a hospital will be set up for training exercise. Hospitals in storage across the state, are being inspected for damage and stray supplies. Following inspection, which will require six months. Dr. Hardwicke said that improved storage facilities will be sought.

Self-Help Kits—Dr. Siegel stated that the self-help courses must be expanded. It was stated that 96 kits are now available through the District Public Health offices. Additional 500 are expected by March 15. Mr. Mayfield reported 2,000 people trained to date. Certain schools have approved the program for 9th grade students. Difficulty was encountered in other schools because of established teaching schedules. He said sponsors at present are about 55 per cent M.D.'s and 45 per cent D.O.'s.

M.D.'s Part—Doctors Siegel and Sanders noted that the physician is not required to attend every class, but as a sponsor, be available at certain times as consultant. Dr. Hardwicke suggested that since the general practitioner has close community contact, he should take the lead in sponsorship. Dr. Siegel stated that he urged the Councilors to promote the course in their districts. It was noted that two captive student groups for self-help training would be schools and hospital employees. Nursing Home personnel may, under state licensing law, be required to take the course. Dr. Siegel reported on a TV program, sponsored by the Illinois Medical Society.

County Civil Defense—Dr. Siegel said that all County Medical Societies had been surveyed December 14, 1962, asking for civil defense committees or representatives. To date 19 yes, 2 none, 31 no reply.

Hospitals as Shelters—Chairman referred to *AMA Journal*, December 15, 1962 (Vol. 182, No. 11, page 15), reporting that hospitals have agreed to serve as fallout shelters. He stated that position of committee taken at meeting May 6, 1962 be reconsidered.

One Hundred and Fifth Annual Session—Dr. Siegel announced that an exhibit booth will be sponsored by the committee at the 1963 MSMA Annual Session, March 24-27 in Kansas City. It was agreed also that time on the 1964 program be requested. Dr. Hampton offered to assist with a program.

Future Meetings—It was recommended that quarterly meetings be held, MSMA and MAGP jointly.

On motion of Dr. Stricker, duly seconded, it was voted that the rules set out by the AMA booklet on "Use of Ancillary Personnel in Civil Defense" be followed in Missouri.

On motion of Dr. Benoit, duly seconded, the report of the Committee was accepted.

LEGISLATION

Mr. O'Brien presented the following report on bills in the Missouri Legislature:

Kerr-Mills Implementation

S.B. 140 amends present Kerr-Mills law regarding the needy so that inpatient hospital care may be furnished to persons who are certified by competent medical authority as requiring hospitalization for serious illness or injury for which outpatient care will not suffice, provided, however, that such hospitalization shall not include those persons admitted to a hospital for elective surgery, diagnostic studies and chronic conditions. In addition, certain dental care and prescribed drugs and medicines may be provided.

It is estimated that the cost in state funds will be $4,322,320 for the biennium. The total program, including Federal funds, will amount to about $10,000,000.

S.B. 142 provides that an Advisory Committee to the director of welfare regarding Kerr-Mills shall consist of 11 members, including the Chairman of the Senate Committee on Public Health and Welfare, Chairman of the House of Representatives Committee on Social Security, at least three physicians, the others shall be persons interested in hospital administration, nursing home administration, nursing, dentistry and pharmacy.

S.B. 148 provides that the Division of Welfare shall establish a program for the "near needy." The program shall consist of (1) inpatient hospital care for serious illness or injury for which outpatient care will not suffice; and (2) post-hospitalization nursing services not to exceed thirty days after release from the hospital under the direction of a physician who certifies that private duty nursing care is needed.

It is estimated that the cost in state funds will be $500,000 for the biennium, plus an equal amount of Federal funds, a total cost of $1,000,000.

Good Samaritan Laws

H.B. 47 provides that physicians, who render emergency care at the scene of an accident, shall *not* be liable for any civil damages as a result of acts or omissions by such persons when no fee is charged for services rendered.

H.B. 88 is similar to H.B. 47 but is less clear in intent.

Chiropractic

H.B. 200 amends the chiropractic act. Chiropractic is defined to be the science and art of *examining* and adjusting by hand the movable articulations of the human body, especially the spinal column, for the correction of abnormalities and deformities of the human body. X-ray for diagnostic purposes is added.

The chiropractic course shall be for 4 years rather than 3 and shall include the following additional subjects: *clinical diagnosis, x-ray and spinography, bacteriology and biochemistry.* (Symptomatology is deleted.)

Optometry

H.B. 46 increases the fees for license and annual registration fees for optometrists. (See report of Committee on Eye Health.)

S.B. 55 provides that optometrists shall be required to take refresher courses, approved by the board, before their license may be renewed. (See report of the Committee on Eye Health.)

S.B. 20 provides for the licensure of an individual optometrist who had not met the educational requirements of the board.

H.B. 169 repeals the present section of the optometry law dealing with advertising and makes it unlawful for an optometrist, or any other person, firm or corporation from advertising the cost of eyeglasses or using the words "eyes examined free."

Medical Examining Board

SB. 109 adds a new section to the medical practice act, providing for the issuance of a temporary license for one year, without examination, to a person who is not a citizen of the United States but is legally authorized to practice under the laws of another state, territory or foreign country and who meets such other requirements as the board may prescribe.

S.B. 110 amends the medical practice act by increasing the original license fee from $25 to $50. The biennial license fees are increased from $5.00 to $60.00. The board may place a licensee *on probation,* as well as suspend or revoke a license.

Professional Corporation Act

S.B. 108 provides that accountants, architects, attorneys, chiropodists, chiropractors, dentists, optometrists, doctors of medicine and osteopathy, and veterinarians may create a professional corporation. (The act is similar to those adopted in 19 states which were considered by our Committee on Corporate Practice.)

Mental Health

S.B. 56 authorizes the establishment of Psychiatric Intensive Treatment Centers in St. Louis, Kansas City and Columbia (Dr. Ulett's program).

In discussion, it was brought out that state economics and regulations set up by the Department of Welfare would influence bills S.B. 140, S.B. 142 and S.B. 148.

H.B. 47 was discussed briefly and on motion of Dr. Dowell, duly seconded, it was voted to approve it.

On motion of Dr. Hollweg, duly seconded, it was voted to oppose H.B. 200.

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As had been pointed out by Dr. McLeod in his report, there was nothing objectionable in S.B. 20 and 55, and H.B. 46 and 169.

On motion of Dr. Hollweg, duly seconded, it was voted that request be made that "doctors of medicine" be removed from S.B. 108.

Attention was called to several other bills dealing with blood tests for drunken drivers, licensing of marriage councilors, state income tax, sales tax, wiping out tax on intangible property. Dr. Hollweg suggested that any legislation dealing with highway safety should be studied carefully.

LIAISON COMMITTEE OF MSMA AND HOSPITALS

Dr. Furlow reported on a meeting the previous evening of the Liaison Committee on the Association and Hospitals. He said the discussion centered on cooperation of St. Louis Blue Cross and Blue Shield, especially in the senior citizen program; the Kerr-Mills implementation and the situation at the Jewish Hospital in St. Louis. It was pointed out that the Jewish Hospital was offering full hospital and medical coverage to several unions. Dr. Furlow said that he at first felt it was a local problem, but now thought it might become a statewide problem and should be brought to the Council. He also said that not sufficient information was available to advise any action on the part of the Council.

On motion of Dr. Whitener, duly seconded, it was voted that a committee be appointed by the Chairman of Council to work with the two local medical societies and obtain information that was needed. Dr. Furlow appointed the following committee: Dr. Matthews, Chairman, Whitener and Furlow.

BOARD OF HEALING ARTS

Dr. Perry reported that the Attorney General had ruled that no osteopathic physician with an M.D. license from California need be licensed in Missouri as an M.D.

He discussed S.B. 109 and 110 and said they were not what the Board had desired, either as to temporary license or the amounts to be charged for biennial registration. It was suggested that new laws be drafted for introduction into the Assembly.

NATIONAL LEGISLATION

Mr. Woolley reported on a meeting of officers of the AMA with officials of HEW. He said there were indications that the Administration bill might be introduced about February 15, although there is some feeling that no bill will be introduced in this session and that care of the elderly under Social Security might be a campaign issue next year.

MISSOURI STATE MEDICAL FOUNDATION

Dr. Furlow gave a financial report on the MSMF, showing that as of January 31, 1963, the balance on hand was $142.00 although some money is due the Foundation from 1963 MSMA assessment. He stressed the need for more contributions and said that a list of contributors will appear in an early issue of Missouri Medicine. He said the total number of loans made was 181 to 81 Missouri students.

He reported on a conference with Dr. Shields Warren, board member of the Mallinckrodt Foundation, set up by Dr. John Shapleigh, company physician, and which Dr. Wilson attended and that there might be a contribution from that Foundation.

On motion of Dr. Dowell, duly seconded, it was voted that Dr. Shapleigh and Dr. Wilson receive letters thanking them for their part in the conference.

It was reported by several that there had been inquiries concerning contributions and especially placing the Foundation in wills. Mr. Skinner said that a list of trust officers for Missouri foundations that might make contributions was being compiled. It was thought that the Woman's Auxiliary might be made more cognizant of the Foundation and its work.

HANDBOOK

It was stated that an attempt would be made to get the minutes of the present meeting in the printed minutes of the Council. Items to be included in the Handbook are report of the Councilor reorganization committee report of the Committee on Medical Education and Hospitals, especially in regard to compensation of interns and residents, report of joint meeting of the committees on Public Service, Aging and Medical Economics to be held February 24, and any resolutions that may be received.

BLOOD BANKS

Dr. Hardwicke reported that the Red Cross was withdrawing from blood bank work. Dr. Wilson said that the Medical Center at Columbia had been informed that the amount of blood received from the Red Cross would be cut down by July 1. Dr. Hardwicke suggested that a committee be appointed to help work out a solution.

On motion of Dr. Doyle, duly seconded, it was voted that this be referred to the Committee on Laboratory Medicine and that a representative from Washington University, the University of Missouri and the Division of Health be asked to work with the Committee. St. Louis University is already represented on the Committee.

TREASURER'S REPORT

Dr. Doyle said that the books had been audited for 1962 and gave a financial report as of January 31. On Dr. Doyle's motion, duly seconded, the report was accepted for filing for audit.

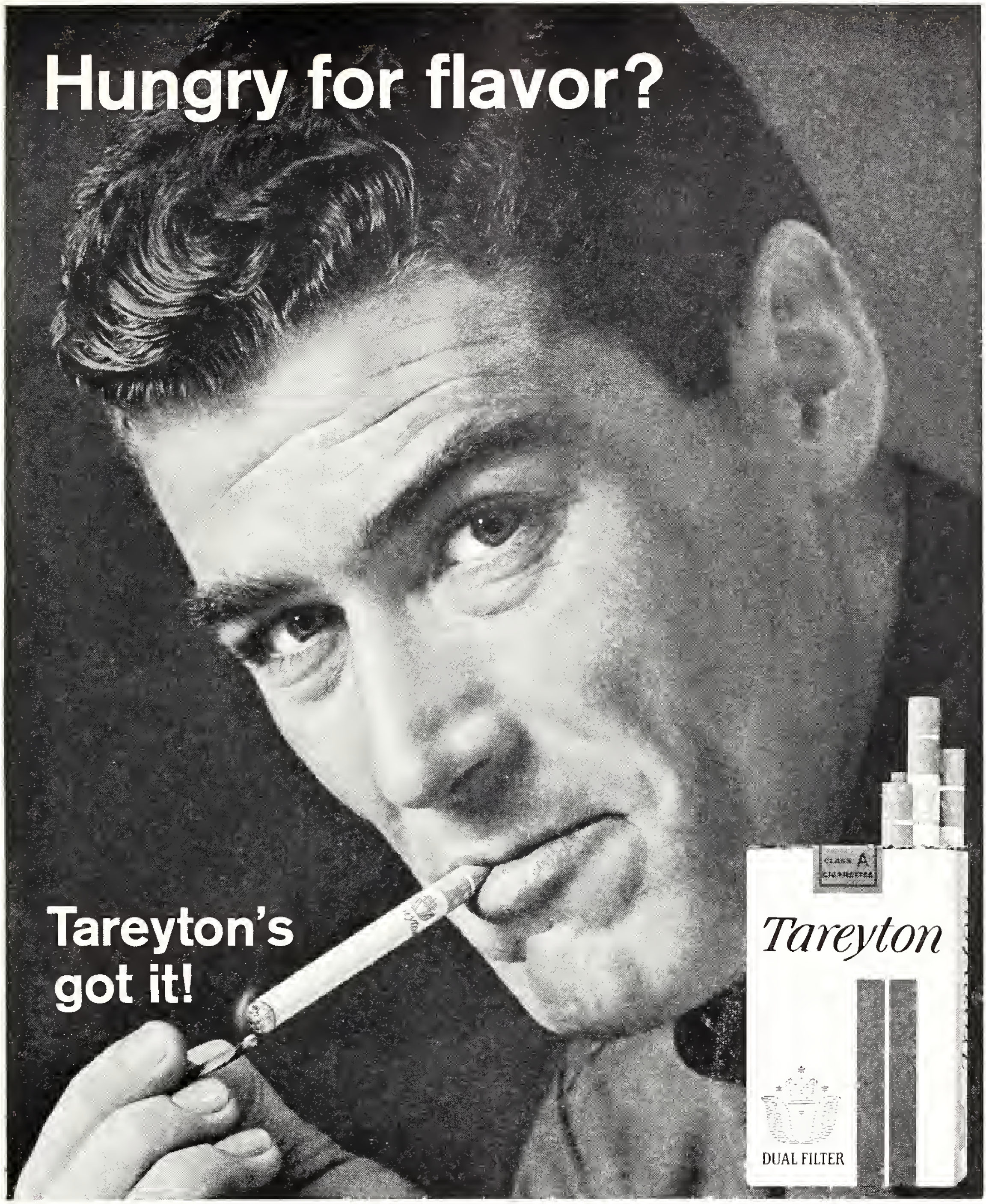
UNIVERSITY OF MISSOURI SCHOOL OF MEDICINE

Dr. Wilson discussed appropriation legislation that had been introduced for the School. He pointed out that the school and hospital are now well staffed and that teaching facilities are of high quality but that sufficient appropriations from the legislature are necessary to maintain this standard. He said that the hospital had the lowest per diem cost of similar hospitals with the exception of two, one of which is not accredited. He said there had been 60,000 outpatients, and 9,000 admissions in the last year.

Dr. Wilson said that he would send a fact sheet to the members of the Council regarding medical school appropriations in the near future.

It was decided that the next meeting of the Council would be on March 24 as a breakfast at the annual session.

Leonard T. Furlow, M.D., *Chairman*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1963 ANNUAL SESSION

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Audrain	Lawrence K. Epple, Mexico	L. L. Davis Jr., Mexico
Barton-Dade	Thomas W. Carroll, Lamar	Herbert M. Arnold, Lamar
Barton-Dade		
Benton		
Boone	H. E. Stephenson Jr., Columbia	LeRoy J. Miller, Columbia
Boone	R. P. Ladenson, Columbia	T. W. Burns, Columbia
Boone	C. Thorpe Ray, Columbia	James C. Cope, Columbia
Buchanan	E. E. Wadlow, St. Joseph	Allen I. Herman, St. Joseph
Buchanan	John N. Martin, St. Joseph	T. E. Potter, St. Joseph
Butler-Ripley-Wayne		
Butler-Ripley-Wayne		
Butler-Ripley-Wayne		
Callaway	James K. Ritterbusch, Fulton	William Cremer, Fulton
Camden		
Cape Girardeau	Thos. G. Otto, Cape Girardeau	Wm. O. L. Seabaugh, Cape Girardeau
Carter-Shannon		
Carter-Shannon		
Chariton-Macon-Monroe-Randolph	D. D. Stuart, Brunswick	C. C. Weger, Keytesville
Chariton-Macon-Monroe-Randolph	James E. Campbell, Macon	Howard Miller, Macon
Chariton-Macon-Monroe-Randolph	F. A. Barnett, Paris	G. M. Ragsdale, Paris
Chariton-Macon-Monroe-Randolph	A. P. Rowlette, Moberly	Robert Hasson, Moberly
Clay	T. F. Edwards, N. Kansas City	Weldon L. Sportsman, Kansas City
Clay	T. B. Schertz, N. Kansas City	Edward H. Fischer, N. Kansas City
Clinton	P. T. Luckenbill, Plattsburg	John P. Mabrey, Plattsburg
Cole	G. D. Shull, Jefferson City	B. E. Watts, Jefferson City
Cooper	G. W. Winn, Boonville	
Dallas-Hickory-Polk	O. A. Griffin, Buffalo	Evelyn Griffin, Buffalo
Dallas-Hickory-Polk		
Dallas-Hickory-Polk	Ben H. Koon, Bolivar	G. G. Robinson, Humansville
Dunklin	Joseph A. Zimmerman, Kennett	George Q. Dunmire, Kennett
Franklin-Gasconade-Warren	Wm. R. Richardson, Union	James Shea, Gerald
Franklin-Gasconade-Warren	George M. Workman, Hermann	Paul A. Brenner, Owensville
Franklin-Gasconade-Warren	Herb. H. Schmidt, Marthasville	H. F. Hoelscher, Warrenton
Grand River		
Caldwell	Edward M. Nixon, Gallatin	Frank R. Daley, Hamilton
Livingston	Joseph Conrad, Chillicothe	W. L. Fair, Chillicothe
Carroll	E. W. Allen, Carrollton	John H. Platz, Carrollton
Grundy	C. L. Clark, Trenton	C. H. Cullers, Trenton
Daviess	J. Larry Dowell, Pattonsburg	Fred K. Wilson, Winston
Harrison	Merriam Gearhart, Bethany	M. D. Ellsworth, Cainsville
Linn	George Gary, Marceline	Ralph Bohnsack, Brookfield
Mercer	J. M. Perry, Princeton	Frank H. Zahrt, Princeton

County Society	*Delegate*	*Alternate*
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Greene	Stanley S. Peterson, Springfield	L. R. Webb Jr., Springfield
Greene	Kenneth E. Knabb, Springfield	Robt. W. Maher, Springfield
Greene	Edwin M. Powell, Springfield	M. J. Clarke, Springfield
Greene	Wm. H. Snead Jr., Springfield	H. J. McAlhaney, Springfield
Henry	W. D. Bradshaw, Clinton	R. S. Hollingsworth, Clinton
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Jackson	John F. Bowser, Kansas City	B. C. Andrus, Kansas City
Jackson	Philip L. Byers, Kansas City	R. D. Blim, Kansas City
Jackson	Dillard M. Eubank, Kansas City	C. S. Cooper, Kansas City
Jackson	Harold L. Gainey, Kansas City	Fred D. Fowler, Kansas City
Jackson	William W. Gist, Kansas City	B. J. Geha, Kansas City
Jackson	John A. Griffith Jr., Kansas City	Waldo S. Holt, Kansas City
Jackson	Wm. M. Kitchen, Kansas City	John B. Justus, Kansas City
Jackson	J. R. McVay Jr., Kansas City	B. A. Nelson, Kansas City
Jackson	Gerald L. Miller, Kansas City	K. S. Nicolay, Kansas City
Jackson	William C. Mixson, Kansas City	C. M. Peterson, Kansas City
Jackson	Ralph Perry, Kansas City	Ira T. Smith, Kansas City
Jackson	Russell D. Shelden, Kansas City	W. J. Stelmach, Kansas City
Jackson	Robert K. Skillman, Kansas City	Edward H. Stratemeier, Kansas City
Jackson	R. W. Stockton, Kansas City	C. L. Thompson, Kansas City
Jackson	C. B. Wheeler Jr., Kansas City	
Jasper	M. Foster Whitten, Carthage	Richard R. Cohle, Carthage
Jasper	Gregory A. Schulte, Joplin	Virgil Jeans, Joplin
Jefferson	Francis L. Kozal, Crystal City	Harry Yoskit, Festus
Johnson	Chas. M. Lederer, Warrensburg	M. Garza Gonzalez, Warrensburg
Lafayette-Ray	Catherine Boydston, Odessa	Wayne Boydston, Odessa
Lafayette-Ray	Charles Riley, Richmond	Isadore Goldberg, Braymer
Lewis-Clark-Scotland	Landis Y. Davis, Canton	
Lewis-Clark-Scotland		
Lewis-Clark-Scotland		
Lincoln-St. Charles	E. O. Damron, Elsberry	Joseph C. Creech, Troy
Lincoln-St. Charles	John Commerford, St. Charles	Gerald A. Yaeger, St. Charles
Marion-Ralls-Shelby	B. L. Murphy, Hannibal	Lysle Bach, Hannibal
Marion-Ralls-Shelby		
Marion-Ralls-Shelby		
Mid-Missouri		
Phelps	M. K. Underwood, Rolla	William R. Lytle, Rolla
Crawford	A. R. Baumann, Steelville	Frank A. Elders Jr., Cuba
Dent	B. J. Bass, Salem	Martin M. Hart, Salem
Pulaski	Clyde S. Miller, Waynesville	
Maries		
Laclede	Rae W. Froelich, Lebanon	H. W. Carrington, Lebanon
Miller		
Mineral Area		
St. Francois	H. M. Roebber, Bonne Terre	A. G. Karraker, Farmington
Iron	Ben M. Bull, Ironton	Marvin Menne, Ironton
Madison	M. Grossman, Fredericktown	C. E. Michaelis, Fredericktown
Washington	G. Cresswell, Potosi	
Reynolds		
Ste. Genevieve	R. C. Lanning, Ste. Genevieve	
Moniteau	E. A. Kibbe, California	R. B. Fulks, California
Montgomery		
Morgan	R. R. Lyle, Versailles	J. L. Washburn, Versailles

County Society	Delegate	Alternate
Nodaway-Holt-Atchison-Gentry-Worth		
Nodaway-Holt-Atchison-Gentry-Worth		
Nodaway-Holt-Atchison-Gentry-Worth		
Nodaway-Holt-Atchison-Gentry-Worth		
Nodaway-Holt-Atchison-Gentry-Worth		
North Central		
Adair	Milton T. English, Kirksville	Paul E. Hilton, Kirksville
Schuyler		
Knox	Waldo B. Isom, Knox City	Francis Tarvydas, Edina
Sullivan		
Putnam		
Ozarks		
Barry	W. J. Glass, Monett	Mary Newman, Cassville
Lawrence	Kenneth Glover, Mount Vernon	Alan Bailey, Mount Vernon
Stone	Fred Wommack, Crane	
Christian	Stanley Roper, Ozark	
Taney	Roy Gillespie, Branson	W. C. Magness, Branson
Newton		
McDonald		
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Perry	A. E. McDermott, Perryville	Theodore Fischer, Altenburg
Pettis	C. Gordon Stauffacher, Sedalia	A. L. Lowe, Sedalia
Pike	Charles H. Lewellen, Louisiana	R. F. Christensen, Louisiana
Platte		
St. Louis City	Daniel L. Sexton, St. Louis	John W. Berry, St. Louis
St. Louis City	James M. Macnish, St. Louis	D. A. Bindbeutel, St. Louis
St. Louis City	Edward D. Kinsella, St. Louis	E. C. Ernst Jr., St. Louis
St. Louis City	William F. Melick, St. Louis	Martin G. Austin, St. Louis
St. Louis City	Geo. L. Hawkins Jr., St. Louis	Wm. J. Gillespie, St. Louis
St. Louis City	Paul F. Max, St. Louis	Joseph C. Edwards, St. Louis
St. Louis City	Henry C. Allen, St. Louis	Lee T. Ford Jr., St. Louis
St. Louis City	Walter T. Gunn, St. Louis	Wm. A. Knight Jr., St. Louis
St. Louis City	John P. Eberle, St. Louis	Charles R. Gulick, St. Louis
St. Louis City	Robert B. Bassett, St. Louis	R. J. LaDriere, St. Louis
St. Louis City	Louis H. Kohler, St. Louis	Robert E. Funsch, St. Louis
St. Louis City	Leo J. Hartnett, St. Louis	Carl J. Dreyer, St. Louis
St. Louis City	Edward M. Cannon, St. Louis	V. T. Houston, St. Louis
St. Louis City	Eugene V. Henschel, St. Louis	C. Alan McAfee, St. Louis
St. Louis City	Michael M. Karl, St. Louis	R. W. Bradley, St. Louis
St. Louis City	Warren M. Lonergan, St. Louis	N. P. Knowlton Jr., St. Louis
St. Louis City	J. Otto Lottes, St. Louis	Clement B. Grebel, St. Louis
St. Louis City	Joseph L. Lucido, St. Louis	John G. Leahy, St. Louis
St. Louis City	Vernon E. Michael, St. Louis	Dallas J. Dyer, St. Louis
St. Louis City	Joseph C. Peden Sr., St. Louis	Richard L. Sterkel, St. Louis
St. Louis City	Jerome I. Simon, St. Louis	A. F. Sudholt Jr., St. Louis
St. Louis City	J. W. Thompson, St. Louis	C. H. Bockelman, St. Louis
St. Louis City	Don C. Weir, St. Louis	Donald J. Mehan, St. Louis
St. Louis City	Frank G. Zingale, St. Louis	J. J. McNamara, St. Louis
St. Louis City	Charles S. Sherwin, St. Louis	John H. Kendig, St. Louis
St. Louis City	David N. Kerr, St. Louis	Charles O. Metz, St. Louis
St. Louis	George J. L. Wulff Jr., St. Louis	R. B. Deitchman, St. Louis
St. Louis	James Meador, St. Louis	Maurice A. Diehr, St. Louis
St. Louis	Oscar P. Hampton Jr., St. Louis	M. G. Fingerhood, St. Louis
St. Louis	William H. Bailey, St. Louis	Louis F. Howe, St. Louis
St. Louis	Edgar W. Davis, St. Louis	Joseph B. Kendis, St. Louis
St. Louis	Falls B. Hershey, St. Louis	Richard E. Lord, St. Louis

County Society	Delegate	Alternate
St. Louis	Richard A. Sutter, St. Louis	Paul W. Miles, St. Louis
St. Louis	Melvin M. Schwartz, St. Louis	Charles Miller, St. Louis
St. Louis	Robert A. Mayer, Clayton	R. A. Walther Jr., St. Louis
St. Louis	James R. Nakada, Clayton	Lois C. Wyatt, Kirkwood
Saline	E. Lee McCorkle, Marshall	George A. Aiken, Marshall
SEMO		
Stoddard		
New Madrid		
Mississippi		
Scott		
South Central		
Howell	M. L. Fowler, West Plains	Rollin H. Smith, West Plains
Oregon	C. W. Cooper, Thayer	A. T. Walker, Mammoth Spring
Texas	Joe Wall, Houston	James A. Hasek, Cabool
Wright	R. W. Denny, Mountain Grove	
Douglas	Marvin Gentry, Ava	
Webster	T. M. Macdonnell, Marshfield	Robert J. Bareis, Marshfield
West Central		
Bates	C. A. Lusk Jr., Butler	A. L. Hansen, Butler
Cass	Edward Jones, Harrisonville	H. A. Tracy, Belton
Cedar	Robt. Magee, El Dorado Springs	Wm. Richter, Stockton
St. Clair	Don Giesler, Osceola	Robert Brownsberger, Appleton City

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Medco Products Co., Inc., Tulsa, Okla. Booth 4.
Roche Laboratories, Nutley, N. J. Booth 5.
United Medical Equipment Co., Kansas City, Mo. Booth 6.
The Medical Protective Company, Fort Wayne, Ind. Booth 7.
Vitamin Products Company, Chicago, Ill. Booth 8.
Missouri Medical Service (Blue Shield), St. Louis, Mo. Booth 9.
Coca-Cola Company, Atlanta, Ga. Booth 10.
Hyland Laboratories, Los Angeles, Calif. Booth 11.
Sandoz Pharmaceuticals, Hanover, N. J. Booth 12.
Ortho Pharmaceutical Corporation, Raritan, N. J. Booth 13.
William H. Rorer, Inc., Ft. Washington, Pa. Booth 14.
Encyclopaedia Britannica, Chicago, Ill. Booth 15.
Wm. P. Poythress & Co., Inc., Richmond, Va. Booth 18.
Lloyd Brothers Incorporated, Cincinnati, Ohio. Booth 19.
Pfizer Laboratories, New York, N. Y. Booth 20.
The S. E. Massengill Company, Kansas City, Mo. Booth 21.
Abbott Laboratories, North Chicago, Ill. Booth 22.
Mead Johnson Laboratories, Evansville, Ind. Booth 23.
The Stuart Company, Division, Atlas Chemical Industries, Inc., Pasadena, Calif. Booth 25.
Organon, Inc., West Orange, N. J. Booth 26.
Merck Sharp & Dohme, Philadelphia, Pa. Booth 27.
Warren-Teed Product Co., Columbus, Ohio. Booth 28.
Desitin Chemical Co., Inc., Providence, R. I. Booth 29.
Miller Pharmacal Co., St. Louis, Mo. Booth 30.
A. H. Robins Co., Inc., Richmond, Va. Booth 31.
Electronic Business Equipment, Inc., Kansas City, Mo. Booth 32.
McNeil Laboratories, Inc., Ft. Washington, Pa. Booth 33.
Aleo Division Brunswick Corp., Kansas City, Mo. Booth 34.
Geigy Pharmaceuticals, Ardsley, N. Y. Booth 35.
Ayerst Laboratories, Chicago, Ill. Booth 36.
Donley-Evans & Co., St. Louis, Mo. Booth 37.
Eli Lilly and Company, Indianapolis, Ind. Booth 38.
U. S. Vitamin & Pharmaceutical Corp., New York, N. Y. Booth 39.
Sanborn Company, Waltham, Mass. Booth 40.
Philips Roxane Laboratories, Columbus, Ohio. Booth 41.
Ciba Pharmaceutical Products, Inc., Summit, N. J. Booth 42.
Dumas-Wilson & Co., St. Louis, Mo. Booth 43.
King Merritt & Co., Jefferson City, Mo. Booth 44.
Julius Schmid, Inc., New York, N. Y. Booth 45.
Warner-Chilcott Laboratories, Morris Plains, N. J. Booth 46.
G. D. Searle & Co., Chicago, Ill. Booth 47.
Association of American Physicians and Surgeons, N. Kansas City, Mo.
Jones Plans, Inc., Kansas City, Mo. Booth 50.
W. B. Saunders Company, Philadelphia, Pa. Booth 51.
The Upjohn Company, Kalamazoo, Mich. Booth 52.
S. J. Tutag & Company, Detroit, Mich. Booth 53.
E. R. Squibb & Sons, New York, N. Y. Booth 54.

Joint Account

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163-3

THE MISSOURI SOCIETY OF MEDICAL TECHNOLOGISTS

Sixteenth Annual Convention

March 24, 25, 26, 27, 1963

Sunday, March 24, 1963

10:30 a.m. Board of Directors Meeting, St. Mary's Hospital, 101 Memorial Drive, Staff Room, 1st Floor, East.
1:30 p.m. Registration, St. Mary's Hospital Staff Room.
2:00 p.m. Business Meeting, St. Mary's Hospital Staff Room.
4:30 p.m. Post Board of Directors Meeting, St. Mary's Hospital Staff Room.
Observation of Coulter Counter, Auto-analyzer, and Beckman Du. —Laboratory, 4th Floor.
6:00 p.m. Buffet Supper, St. Mary's Hospital Cafeteria.
7:30 p.m. Business Meeting, MABB, 1st Floor Staff Room.

SCIENTIFIC SESSION

Muehlebach Towers

Monday, March 25, 1963

Room 365

9:15 a.m.-4:30 p.m. Coagulation Workshop. Miss Lale Harbough, Miami, Fla.

Room 471-473

8:30 a.m. Registration.
9:00 a.m. Invocation, Reverend Kilian Dreisling, C.P.P.S., Chaplain, St. Mary's Hospital.
9:05 a.m. Address of Welcome. President, Ina Moehlman, Springfield, Mo.
9:10 a.m. Routine Typing and Crouping.
9:35 a.m. Special Typing and Grouping.
10:00 a.m. Coffee Break.
10:15 a.m. Routine Crossmatching.
10:45 a.m. Special Crossmatching.
11:15 a.m. Hemolytic Disease of the Newborn.
11:45 a.m. Blood Fractions, Preparation.
12:15 p.m. Use of Blood Fractions.
12:45 p.m. Lunch.
2:00 p.m. Pathogenic Non-Pathogens. Robert Garrison, M.D., Kansas City, Mo.
2:30 p.m. Tularemia Going but Not Gone. Earl M. Fowler, M.A., Kansas City, Mo.
3:00 p.m. Coffee Break.
3:15 p.m. The Biochemistry and Physiology of the Platelet. Haywood Jackson, M.D., Kansas City, Kansas.
3:45 p.m. Scientific Session.

Tuesday, March 26, 1963

9:00 a.m.-4:30 p.m. Repeat of Coagulation Workshop. Lale Harbough, Miami, Fla.
9:00 a.m. Colonial Room. Panel: Newer Laboratory Tests.
Moderator: Eugene F. Tucker, M.D., St. Louis, Mo.
Thyroid Function Tests, William H. Bierwaltes, M.D., Ann Arbor, Mich.
Clinical Laboratory Interpretations of Electrophoresis, Paul E. Hermans, Rochester, Minn.
Clincial Values of Newer Enzyme Tests, Felix Wroblewski, M.D., New York.
10:30 a.m. Intermission to View Exhibits.
10:45 a.m. Coffee Break.
11:00 a.m. Clinical Enzymology. Felix Wroblewski, M.D., New York.
12:00 noon Lunch.
2:00 p.m. Clinical Aspect of the Collagen Diseases. Paul E. Hermans, M.D., Rochester, Minn.
2:30 p.m. Bilirubin Metabolism. Max Berenbom, M.D., Kansas City, Mo.
3:00 p.m. Coffee Break.
3:15 p.m. Scientific Session.
3:45 p.m. Scientific Session.

CLASSIFIED ADS

SPACE AND EQUIPMENT to share in very attractive office in new midtown St. Louis medical building, mornings and evenings. Write Box 277, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Missouri.

WANTED—Associate in General Practice in a two-man Modern Clinic Building. Town of about 7,000 in Missouri Ozarks. Modern hospital available. Contact Rollin H. Smith, M.D., West Plains, Missouri.

WANTED: Physician with training in general practice or internal medicine for general practice in four-man group. College town of 5,000 near Kansas City. Two open staff hospitals. Early partnership. No investment required. Paid vacations, study period. Starting salary $12,000. Write, Medical Clinic, Lexington, Missouri.

FOR SALE OR RENT—Terms to fit prospective buyer or tenant. Fully equipped office building in central Missouri close to 125 bed hospital. Owner entered Federal Service. For information contact Box 276, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Mo.

GENERAL PRACTITIONER OPENING—Kansas City suburb. $15,000.00 guarantee. Partnership available after one year. Paid vacation and study time. Rotating weekend call. Include qualifications. For information write Box 278, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Mo.

PHYSICIANS NEEDED, INTERNIST—Fourteen man Iowa group has opening for Board qualified Internist. City of 30,000, new Clinic Building, complete laboratory and X-ray. Partnership in two years—salary open. Write Box 279, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Mo.

FOR SALE—Dermatologist wants to sell office equipment, instruments, quartz lamp, microscope. Reasonable prices. For information, write Box 281, c/o Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Missouri.

ST. LOUIS, MISSOURI—RESIDENTS—Opening Immediately and also July 1, 1963, Yearly contract, ECFMG certification, permanent visa; new, voluntary, general hospital JCAH accredited; 150 beds, near medical schools; supervised resident program; living accommodations available, liberal salary. Write, Box 280, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Mo.

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Wednesday, March 27, 1963

9:00 a.m. Scientific Session.
9:30 a.m. The Makings of a Book. Ruth French, M.A., St. Louis, Mo.
10:00 a.m. Preliminary Report on an Immulogical Test for Pregnancy. Vincent Perna, M.D., St. Louis, Mo.
10:30 a.m. Coffee Break.
10:45 a.m. Scientific Session.
11:15 a.m. Scientific Session.

ENTERTAINMENT CALENDAR

Sunday, March 24, 1963

6:30 p.m. Buffet Supper, St. Mary's Hospital Cafeteria, 101 Memorial Drive, Kansas City, Mo.

Monday, March 25, 1963

5:00 p.m. Dinner for Sisters, guests and others. (Members are guests of Missouri Society of Clinical Pathologists.)
6:30 p.m. Social Hour.
7:30 p.m. Banquet. (Members are guests of Missouri Society of Clinical Pathologists.)

Tuesday, March 26, 1963

12:00 noon Round Table Luncheon.
6:00 p.m. Movie for the Sisters, St. Mary's Hospital, Staff Room.

THERMONUCLEAR SURVIVAL

(Continued from page 258)

and glass partition. The fragility of glass windows is such that a detonation of a thermonuclear weapon as far as 50 miles away would probably shatter all the glass windows in a school and cause many, many slivers of broken glass to fly through the air. Inevitably, this would cause serious injury to children in the school, even though they may be far enough from the bomb to escape the effects of heat radiation and blast damage to components other than glass. If mesh wire screens are installed, many of the injuries which would otherwise be due to flying glass slivers would be prevented. Unfortunately, ordinary screens, and even metal venetian blinds do not provide enough protection against broken glass,[1] although they may be of some help.

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[1] Chilton, A. B.: Resistance of Glass Windows to Atomic Blast in: Studies in Atomic Defense Engineering, Navdocks P-290, June 1962, Department of the Navy, p. 56-58.

MISSOURI ACADEMY OF GENERAL PRACTICE

(Continued from page 222)

were from Dr. Martin N. Hart, Salem; Dr. Jordan Kelling, Waverly; and Dr. Frank Johnson, Doniphan. All three were approved for active membership. Eight new associate members, all interns in Kansas City hospitals, were elected to membership following presentation of their applications by the Greater Kansas City Chapter of the Academy. Dr. Walter Gunn, President of the Missouri Academy, appointed a local Committee on Arrangements for the 1963 Annual Session in Kansas City as follows: Dr. Edson C. Carrier, Chairman; Dr. I. C. Fowler, and Dr. R. Stacy Long.

It was agreed that the next meeting of the Board of Directors would be held in Columbia on Thursday evening, May 16, during the Spring Clinical Conference at the University of Missouri Medical Center.

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relieves cough in 15-20 minutes • lasts 6 hours or longer • promotes expectoration and decongestion of air passages • rarely constipates • agreeably cherry-flavored

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Homatropine Methylbromide	1.5 mg.
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Phenylephrine Hydrochloride	10 mg.
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FINANCIAL STATEMENT FOR THE YEAR 1962

LENNERTSON & COMPANY
CERTIFIED PUBLIC ACCOUNTANTS
214 South Bemiston Avenue

ST. LOUIS 5, MISSOURI

Missouri State Medical Association,
634 North Grand Blvd.,
St. Louis, Missouri

Gentlemen:

The accounts of the Missouri State Medical Association, a non-profit Missouri corporation, were examined for the year 1962 and a report thereon is presented together with the following statements:

Exhibit A	Balance Sheet
Exhibit B	Income Statement
Exhibit C-1	Statement of Investments
Exhibit C-2	Statement of Committee and Meeting Expenses
Exhibit D	Dues Receivable and Membership by Societies

It should be noted that members' dues are taken into income on the cash basis whereas the other accounts are maintained on the accrual basis. Items paid in advance, except members' dues, are shown as prepaid and carried forward to the year to which they apply.

Scope of Examination

The Balance Sheet at December 31, 1962 and the Income Statement for the year then ended were reviewed. Examinations or tests were made of the accounting records, in the manner and to the extent deemed appropriate, without making a detailed audit of transactions.

Cash in banks, as shown by the books, was reconciled with the regular monthly bank statements and confirmations received from the depositaries. The petty cash fund was verified by physical count. Recorded cash receipts for the year were traced in total into the bank accounts as deposits and disbursements for the period were substantiated by an inspection of paid checks, purchase invoices and other data on file.

Investments with a cost of $112,055.76 (Exhibit C) were confirmed by a statement from the custodian, Mercantile Trust Company. Investment income of $4,976.43 consists of the following:

Interest on bonds	$3,443.46
Add—1962 share of net discount on purchase of bonds	593.77
Total—Income from Bonds	$4,037.23
Dividends on Stocks	939.20
Total Investment Income	$4,976.43

Investments with a cost of $20,029.12 were sold during the year at a loss of $178.05.

Income Statement

The financial result of the activities of the Association for the year 1962 was an excess of expense over income of $19,866.51 as set forth in Exhibit B. Exhibit C presents a summary of committee and meeting expenses for the year.

Selective tests were made of the income and expense accounts for the period. It was noted that space in The Journal was contributed to the United States Treasury Department for bond advertising and to members and widows of members for small classified ads.

Balance Sheet

The financial position of the Association at December 31, 1962 is presented in Exhibit A. Comments follow on Balance Sheet accounts.

Accounts Receivable—Advertisers $4,022.27, represented the unpaid balances due from Advertisers. Of this amount $3,826.27 was due from the State Journal Advertising Bureau for the months of November and December 1962.

Unpaid Dues of $918.75, offset by a reserve account in like amount, represent 1962 dues of delinquent members carried at the requests of the local societies. Other delinquent members were dropped from membership in accordance with the by-laws. Exhibit D presents a summary of unpaid 1962 dues and membership by societies, as shown by the records of the Association.

Furniture and Fixtures continue to be stated in the fixed amount of $1,000. Equipment purchases and repairs in the total of $227.19 were charged to expense in lieu of depreciation.

Records and data on file were carefully reviewed for liabilities at December 31, 1962 and it is believed that all current liabilities of substantial amount are included in the Balance Sheet. The by-laws require the Association to furnish financial assistance, not to exceed $300, on each mal-practice suit. The Association states that it has no knowledge of any pending suits against members.

Exhibitors have made advance payments of $4,301.25 for annual session exhibit space and these payments will be taken into income when earned in 1963.

The excess of assets over liabilities in the amount of $114,842.23 is shown in the Balance Sheet as a "Reserve for Future Activities."

General

During the year, payments were made to or for the following sponsored organizations:

Missouri State Medical Association Pension Trust		$7,187.00
Employees' retirement insurance premiums	$4,391.78	
Employees' pension plan contribution	2,795.22	
Total	$7,187.00	
Missouri State Medical Foundation		
Stationery, printing, insurance and audit		$1,689.03

Insurance policies were inspected and the following general insurance was in force at the close of the year:

Insurance on	*Type of Coverage*	*Amount*
Furniture and Fixtures	Fire and Extended Coverage (80% co-ins.)	$6,500
Employees	Workmen's Compensation	Statutory
Lessee's Liability	Bodily Injury	$25,000/50,000
President and Treasurer	Fidelity Bond	$20,000
All Other Employees	Fidelity Bond	$5,000
Automobiles of Executive Secretary Field Secretary Executive's Assistant	Non-ownership—Bodily Injury	$50,000/100,000
	Non-ownership—Property Damage	$5,000

Subject to the comments thereon, the attached statements, in our opinion, present fairly the financial position of the Missouri State Medical Association at December 31, 1962 and the financial results of its activities for the year then ended, in accordance with accepted principles of accounting applied on a basis consistent with that of the preceding year.

Yours very truly,
Lennertson & Company
Certified Public Accountants.

Exhibit A

Missouri State Medical Association
Balance Sheet, December 31, 1962

Assets		
Cash		
Mercantile Trust Company (Treasurer's Account)	$ 5,063.65	
Mercantile-Commerce National Bank (Secretary's Account)	280.06	
Petty Cash Fund	25.00	$ 5,368.71
Investments at Cost (Exhibit C-1)		
U. S. Government Bonds	$ 80,056.00	
Corporate Bonds	5,000.00	
Common Stock	26,999.76	
Total (Market Value $112,040.68)		112,055.76
Accounts Receivable		
Advertising	$ 4,022.27	
Mercantile Trust Company—Investment Custodian	1,428.40	5,450.67
Dues Receivable—Exhibit D		918.75
Furniture and Fixtures (at stated value)		1,000.00
Advances for Travel Expenses		417.11
		$125,211.00
Liabilities		
Accounts Payable		
Supplies and Expenses	$ 4,421.59	
Payroll Taxes	727.18	$ 5.148.77
Deferred Credit to Income		
Advance Payments by Exhibitors		4,301.25
Contingent Liabilities to Members on Malpractice Suits—none reported		
Reserve for Uncollected Dues		918.75
Reserve for Future Activities		
Balance January 1, 1962	134,708.74	
Excess of Expenses Over Income for the Year 1962—(Exhibit B)	19,866.51	114,842.23
		$125,211.00

Exhibit B

Missouri State Medical Association
Income Statement for the Year 1962

Particulars	General Activities	Journal Publication	Total
Income			
Dues Received (includes $1.50 per member annually for The Journal)	$108,148.75	$ 5,152.50	$113,301.25
Rentals—Annual Session Exhibit Space	8,750.00		8,750.00
Subscriptions to The Journal—Nonmembers		258.19	258.19
Advertising Space—The Journal		43.457.85	43,457.85
Investments—Interest and Dividends	4,976.43		4,976.43
Collection Fees on A.M.A. Dues	1,039.81		1,039.81
Rental Income—Office Space	540.00		540.00
Total Income	$123,454.99	$48,868.54	$172,323.53
Expenses			
Salary—Executive Secretary	$ 10,800.00	$ 5,400.00	$ 16,200.00
Office Salaries	30,888.77	15,421.23	46,310.00
The Journal—Paper, Printing, etc.		37,810.03	37,810.03
Cash Discount to Advertisers		231.12	231.12
Commissions on Journal Advertising		6,032.10	6,032.10
Postage	2,683.64	905.77	3,589.41
Committee and Meeting Expenses (Exhibit C)	50,204.23		50,204.23
Custodian Fees—Investments	275.14		275.14
Directories and Clipping Service	580.00		580.00
Dues and Subscriptions	428.00		428.00
Employees' Pension Plan Contributions	7,187.00		7,187.00
Equipment Purchases and Repairs in Lieu of Depreciation	227.19		227.19
General Expense	173.95		173.95
Insurance—Blue Cross	450.00		450.00
Insurance—General	324.19		324.19
Loss on Sale of Securities	178.05		178.05
Missouri State Medical Foundation	1,689.03		1,689.03
Office Rent and Light	4,627.93		4,627.93
Professional Fees	3,320.47		3,320.47
Stationery, Printing and Office Supplies	4,522.19		4,522.19
Student Awards	225.00		225.00
Taxes—Payroll and Personal Property	1,438.99		1,438.99
Telephone and Telegraph	2,402.18		2,402.18
Traveling Expense—Executive Secretary	503.38		503.38
Traveling Expense—Field Secretary	2,555.69		2,555.69
Traveling Expense—Executive Assistant	704.77		704.77
Total Expenses	$126,389.79	$65,800.25	$192,190.04
Excess of Expenses Over Income	$ 2,934.80	$16,931.71	$ 19,866.51

Exhibit C

Missouri State Medical Association
Statement of Investments, December 31, 1962

Description	Bonds at Par Value	Cost
U. S. Treasury 2½% Bond 6/15/67-62	$10,000.00	$ 10,000.00
U. S. Treasury 2½% Bond 12/15/68-63	10,000.00	9,933.11
U. S. Treasury 2½% Bond 6/15/69-64	10,000.00	9,882.79
U. S. Treasury 2½% Bond 3/15/70-65	10,000.00	9,823.00
U. S. Treasury 2½% Bond 3/15/71-66	5,500.00	5,421.80
U. S. Treasury 3⅞% Bond 5/15/68	10,000.00	9,964.32
U. S. Treasury 4 % Bond 10/1/69	25,000.00	25,030.98
Pacific Gas and Electric 4½% Bonds 6/1/90	5,000.00	5,000.00
Central and Southwest Corporation 200 shares		6,345.62
Johns Manville Corp. 100 shares		5,582.34
Morgan Guarantee Trust Co. of N. Y. 50 shares		5,106.55
Standard Oil Co. of California 95 shares		5,029.88
Union Carbide Corp. 37 shares		4,935.37
Total		$112,055.76

Statement of Committee and Meeting Expenses
For the Year 1962

Annual Session		$12,338.33
Council Meetings and Councilors' Expenses		6,343.88
Delegates to A.M.A.		3,868.61
Public Relations		9,773.33
Public Service		13,295.04
Women's Auxiliary		2,310.80
Committees		
A.M.E.F.	$ 42.60	
Civil Defense	10,20	
Corporate Practice	709.30	
Eye Health	24.45	
Infant Care	90.39	
Maternal Welfare	594.18	
Medical Economics	81.69	
Medical Education and Hospitals	65.88	
Mental Health	216.12	
Rural Medical Service	129.17	
Scientific and Post Graduate Work	223.72	
Tuberculosis	57.02	
Venereal Disease Control	29.52	2.274.24
Total		$50,204.23

Exhibit D

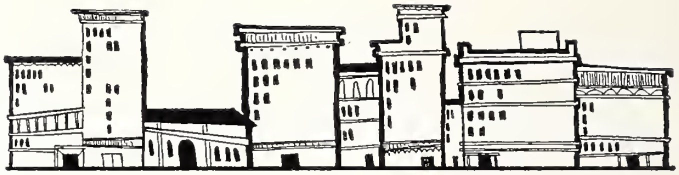
Missouri State Medical Association
Dues Receivable and Membership by Societies
December 31, 1962

MEMBERSHIP

Societies	Active	Honor	Junior	Total	Unpaid Dues
Andrew	4	1		5	
Audrain	18	1	1	20	$ 17.50
Barton-Dade	7			7	35.00
Benton		1		1	
Boone	86	3	18	107	70.00
Buchanan	71	12	3	86	
Butler-Wayne-Ripley	33	1	4	38	105.00
Callaway	15	4		19	
Cape Girardeau	41	4	7	52	
Carter-Shannon	1			1	
Chariton-Macon-Monroe-Randolph	21	4	2	27	
Clay	52	3	7	62	61.25
Clinton	5			5	
Cole	40	4	3	47	17.50
Cooper	11	1	1	13	35.00
Dallas-Hickory-Polk	7	1		8	
Dunklin	17	3	3	23	
Franklin-Gasconade-Warren	27			27	
Grand River	40	5	2	47	
Greene	139	9	17	165	35.00
Henry	10	1		11	
Howard	6			6	
Jackson	614	118	51	783	210.00
Jasper	55	6	1	62	
Jefferson	15	1	1	17	
Johnson	10	1	1	12	
Lafayette-Ray	20		3	23	
Lewis-Clark-Scotland	2	1		3	
Lincoln-St. Charles	20	1	5	26	
Marion-Ralls-Shelby	22	4	5	31	
Mid Missouri	27	1	2	30	
Miller	2			2	
Mineral Area	26	3	2	31	
Moniteau	4			4	
Montgomery	3	1		4	
Morgan	4			4	
Nodaway-Holt-Atchison-Gentry-Worth	15	2		17	
North Central	11	2		13	
Ozarks	41	7	2	50	
Pemiscot	15	3	2	20	35.00
Perry	9	1		10	
Pettis	24	7	1	32	
Pike	5	2	2	9	
Platte	4			4	
St. Louis City	1.008	116	166	1,290	262.50
St. Louis County	386	38	29	453	
Saline	15	3	2	20	
Semo	30	3		33	35.00
South Central	17	1	1	19	
Webster	2	1	1	4	
West Central	29	10	4	43	
Totals	3,086	391	349	3.826	$918.75 (A)

(A) Delinquent dues of members at December 31, 1962 carried at the request of local societies.

From the Medical Schools



ST. LOUIS UNIVERSITY

New Medical Staff Officers

The appointment of Dr. G. O. Broun Sr., dean of the St. Louis University School of Medicine as medical director of the St. Louis University Hospitals, and the election of new officers to the staff have been announced by the Rev. Edward J. Drummond, S.J., vice president for the University's Medical Center.

The election took place at a recent meeting at Firmin Desloge Hospital following the adoption of new by-laws which will govern the staff. Dean Broun's appointment was by the University's Board of Trustees.

Dr. G. O. Broun, dean, St. Louis University School of Medicine (third from left) meets with new officers of medical staff of St. Louis University Hospitals. Officers (left to right) are Dr. George E. Gantner Jr., secretary and treasurer; Dr. Gene B. Starkloff, vice president; Dr. Broun, and Dr. Henry E. Oppenheimer, president.

The new officers, all of whom are members of the St. Louis University School of Medicine faculty, are: Dr. Henry E. Oppenheimer, associate professor of clinical medicine, president; Dr. Gene B. Starkloff, associate professor of clinical surgery, vice president, and Dr. George E. Gantner Jr., associate professor of pathology, secretary and treasurer.

New officers were elected for a one year term.

Grant Award

The Department of Physiology at the School of Medicine has been awarded a new grant of $60,000 by the United States Public Health Service for a three year period for the support of further studies into temperature regulation, dehydration and heat stress.

Dr. Leo C. Senay, associate professor of physiology, is principal investigator in the project. Earlier studies were conducted by Dr. Iain D. Ferguson, a deceased member of the department.

In studies on human subjects, Dr. Senay will attempt to evaluate the rise in body temperature due to exposure to heat combined with dehydration. One possibility to be explored is failure of sweating mechanisms of the human body due to a reduction in body fluids. A decrease in sweating reduces heat loss and therefore causes a rise in body temperatures.

Investigations will be made in a specially constructed room designed to produce a variety of heat stresses.

The descriptive aspects of the study will be followed by one having to do with the various cellular mechanisms which are sensitive to salt and volume changes in body fluids.

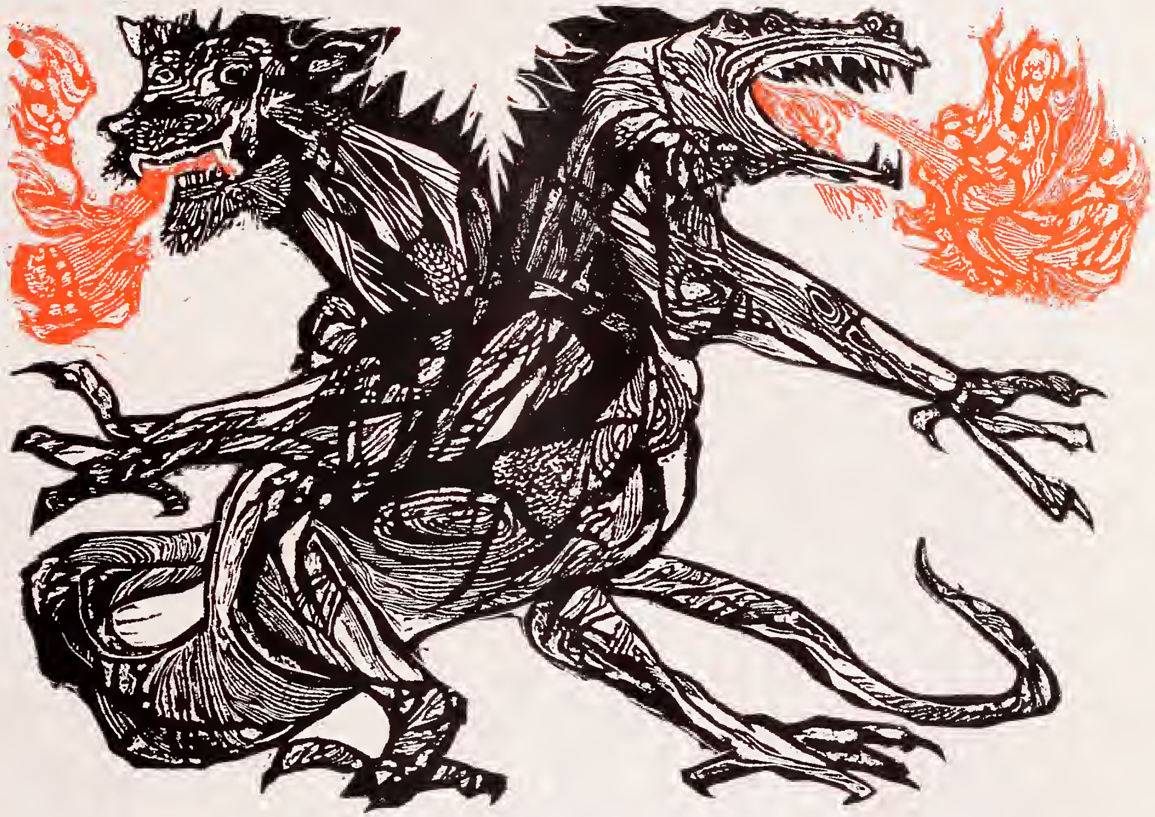
It is not known what role these cellular mechanisms play in the regulation of body temperature during dehydration.

Dr. Senay's findings might aid in maintaining a man in space for long periods of time. His study has applications in the field of cardiovascular physiology, particularly when humans are exposed to elevated temperatures in a limited environment for long periods of time. Subjects for the study are drawn from the student population at the School of Medicine.

Lectures

Dr. Elliott O'Reilly, assistant professor of clinical orthopedic surgery at the School of Medicine, participated in a two weeks seminar on Cerebral Palsy for Latin-American countries in Bogota, Colombia. Dr. O'Reilly, who is chief of the Orthopedics Section at Cardinal Glennon Memorial Hospital, spoke on the orthopedic aspects of cerebral palsy. The seminar was conducted by The International Society's Commissions on Cerebral Palsy and Research in Rehabilitation in cooperation with the Society's member organization in Colombia. Dr. O'Reilly

When
severe pain accompanies
skeletal muscle spasm
ease both 'pain & spasm'



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was one of five specialists in the field of cerebral palsy who participated in the seminar.

Dr. R. Walter Schlesinger, director of the department of microbiology, is scheduled to deliver the annual Alphonse M. Schwitalla Lecture sponsored by Alpha Omega Alpha honor society on February 26. Dr. William P. Longmire Jr., professor of surgery and chairman of the department of surgery, University of California School of Medicine, will give the annual William H. Vogt lecture sponsored by the Alpha Kappa Kappa medical fraternity on February 28.

Dr. Francis X. Paletta, associate professor of clinical surgery, spoke on “Hypothermia in Surgery of the Hand” before the American Society of Surgery of the Hand.

Dr. C. Rollins Hanlon, director of the department of surgery, attended a recent meeting of the American Board of Surgery Examiners.

Alumni Reception

Alumni and faculty are invited to attend a reception to be held in conjunction with the Missouri State Medical Association’s annual meeting in Kansas City. It will be sponsored by the St. Louis University Medical Alumni Association. The reception will be held in the Music Room of the Muehlebach Hotel on Tuesday, March 26 from 5:30 p.m. to 7:30 p.m.

Election

Fourteen students have been elected to membership in the University’s Chapter of Alpha Omega Alpha, national honorary medical society. Nine seniors and five juniors will be initiated at a banquet to follow the annual Alphonse M. Schwitalla lecture to be held at a later date.

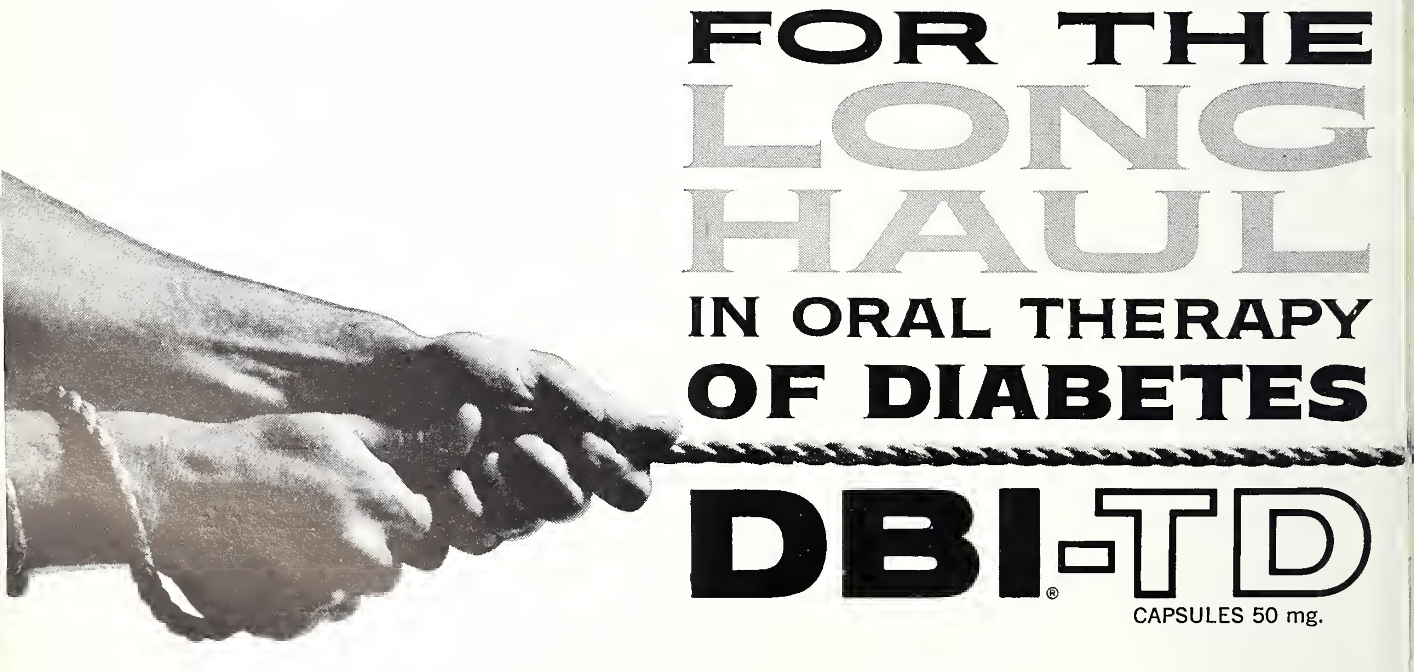
Seniors elected to membership were: Bernard M. Baalman, Meppen, Ill.; John W. Berson, Cincinnati, Ohio; David M. Cook, River Forest, Ill.; Dean L. Mann, Elkhart, Ind.; Jerry Marshall, Tucson, Ariz.; Marion Panepinto, East St. Louis, Ill.; Robert Simmons, Kirkwood, Ill.; Robert Stanley, Maplewood, N. J., and Richard P. Strader, Danville, Ill.

Juniors elected to membership were: John Cichon, Detroit, Mich.; Gerald J. Fivian, Moline Acres, Mo.; Blake Garside, Davenport, Iowa; Louis E. Moix, Conway, Ark., and Ralph Principe, Kenosha, Wis.

WASHINGTON UNIVERSITY

Grants Made

Dr. Jack Davies, professor of anatomy at Washington University School of Medicine, has



been awarded a $54,600 grant from the National Science Foundation. The grant will support a three year study on the role of the placenta in the regulation of pregnancy in rabbits. This study may provide information applicable to further understanding of pregnancy in women. Dr. Davies' work will concern the interrelations of hormonal conditions during pregnancy. Funds are also provided by the grant for equipping a laboratory in the department of anatomy for use in identifying the placental hormones by refined biochemical procedures.

A grant of $3,000 was made by the Du Pont Company to the department of biochemistry to provide laboratory material for use by first year students in their study of biochemistry.

The complex chemistry of the central nervous system will continue to be investigated under a one year grant of $23,341 from the National Foundation-March of Dimes. Dr. Eli Robins, professor of psychiatry, is director of the project. Dr. Robins and a group of associates have spent a dozen years with support of National Foundation grants studying chemical chain reactions in nerve cells, both diseased and normal. They have demonstrated that chemical composition and enzyme activity vary considerably among cells according to their location and the structure of the tissues in which they occur.

Two Receptions Planned

A reception for Washington University alumni, friends and faculty will be held in conjunction with the annual meeting of the Missouri State Medical Association in Kansas City. The reception will be held from 5:30 to 7:30 p.m. preceding the president's banquet on Tuesday, March 26, on the mezzanine level of the Muehlebach Towers (22). All alumni and friends of the School of Medicine are invited to attend.

A second reception will be held in New York City on Tuesday, April 23, at the 11th annual clinical meeting of the American College of Obstetricians and Gynecologists at the Statler Hilton Hotel. It will be from 5:30 to 7:30 in the Washington Room.

Award Goes to Dr. Sherry

Dr. Sol Sherry, professor of medicine, was one of ten medical leaders named to receive Distinguished Achievement Awards by the journal, *Modern Medicine*. He was cited for his work on basic biochemical and physiologic aspects of

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long term response..."Secondary failure is unlikely to occur" with phenformin[4] (DBI-TD capsules, DBI tablets). Phenformin has been successfully administered daily in diabetics in one study for over 3 years[2] and in another for up to 4½ years[1] with "a virtual absence of acquired resistance or true secondary failure."[1] Indeed, DBI has produced a satisfactory response in 55 to 60% of tolbutamide secondary failures.[3,7]

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1. Pomeranze, J.: Clinical Med. 8:1155, June 1961. 2. Krall, L. P. and Bradley, R. F.: Geriatrics 17:337, May 1962. 3. DeLawter, D. E. et al.: J.A.M.A. 171:1786, Nov. 28, 1959. 4. Perkin, F. S.: J.A.M.A. 173:36, May 7, 1960. 5. Pearlman, W.: Phenformin Symposium, Houston, Feb. 1959. 6. Radding, R. S. et al.: Metabolism 11:404, April 1962. 7. Gold, A. et al.: Applied Therapeutics 2:137, 1960. 8. Brown, G. D. and Gabert, H.: Applied Therapeutics 4:451, May 1962. 9. Gold, A.: Applied Therapeutics 4:466, May 1962.

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blood clots and his leadership in evaluating and using agents to dissolve such clots.

Symposium on Kidney Held

February meeting of the Washington University Medical Society was a symposium on the kidney. Dr. John Kissane, assistant professor of pathology, spoke on "Quantitative Histochemistry of Experimental Hydronephrosis." Dr. Harvey L. White, professor and head of the department of physiology, discussed "Sodium and Water Exchange in the Renal Tubules." "The Intact Nephron Hypothesis" was discussed by Dr. Neal S. Bricker, associate professor of medicine. Dr. James M. Stokes, associate professor of surgery, spoke on "Diagnosis of Hypertension Curable by Relief of Arterial Obstruction."

The annual Leo Loeb Lecture presented by Phi Beta Pi medical fraternity was given in February by Dr. Renato Dulbecco, professor of biology at the California Institute of Technology. He discussed problems of viral carcinogenesis.

Student Prize

Senior medical student James Murdock of Webster Groves recently won first prize in the Jewish Community Centers Association's Young Artists Competition. Pianist Murdock later presented a recital at the City Art Museum under the sponsorship of the Artists Presentation Society. He will graduate in June and plans to study surgery.

Faculty Activities

Dr. Fred C. Reynolds, professor of orthopedic surgery at Washington University School of Medicine, was reelected president of the American Board of Orthopedic Surgery at the annual business meeting of the board last week in Miami. His second term of office will extend through January 1964.

Guest editorial writer for a recent issue of the *New Physician* was Dr. Wendell G. Scott, clinical professor of radiology at the School of Medicine. Authors of articles in the special issue on cancer were Dr. A. N. Arneson, professor of clinical obstetrics and gynecology and associate

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& 20 D'S
MARY JOSEPHINE
WOOD
Æ. 8 YRS 10 MO.
18 D'S

they never even had a chance to complain about the cost of drugs

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professor in clinical radiology; Dr. Eugene M. Bricker, associate professor of clinical surgery, and Dr. Scott.

Dr. Joseph Erlanger, professor emeritus of physiology, was recently honored at a surprise party marking his 89th birthday.

Dr. Malcolm L. Peterson, assistant professor of medicine, was guest speaker for the St. Louis Children's Hospital Auxiliary.

Dr. William McAlister, assistant professor of radiology, was a member of a three man panel that discussed pediatric urology at the St. Louis Medical Society Auditorium.

Dr. C. Howe Eller, professor of public health at the School of Medicine, and commissioner of health for St. Louis County, has been appointed to the newly established task force on environmental health of the national committee on Community Health Services. Dr. Eller has also been appointed to a new community health project review committee of the office of the Surgeon General of the United States Public Health Service.

Appearing on the third *Globe-Democrat* Public Medical Forum on "Juvenile Delinquency" were Dr. John F. Bergmann, instructor in clinical psychiatry at the School of Medicine, and Dr. David J. Pittman, associate professor of sociology. The panels are held in cooperation by the newspaper, the St. Louis Medical Society and KMOX.

Dr. John W. Claiborne, lecturer in hospital administration and director of the Cochran Veterans Administration Hospital, has been transferred to the Houston Veterans Administration Hospital. He is replacing Dr. Lee D. Cady, lecturer in hospital administration, who is retiring.

Dr. Donald Mark has been named director of the Snodgrass Laboratories at City Hospital. Dr. Mark will also serve as associate professor of pathology at the School of Medicine. He was formerly director of laboratories at St. Francis Hospital, Peoria, Ill.

Dr. William E. Edmondston Jr., instructor in medical psychology, has been installed as president of the Greater St. Louis Society of Clinical Hypnosis.

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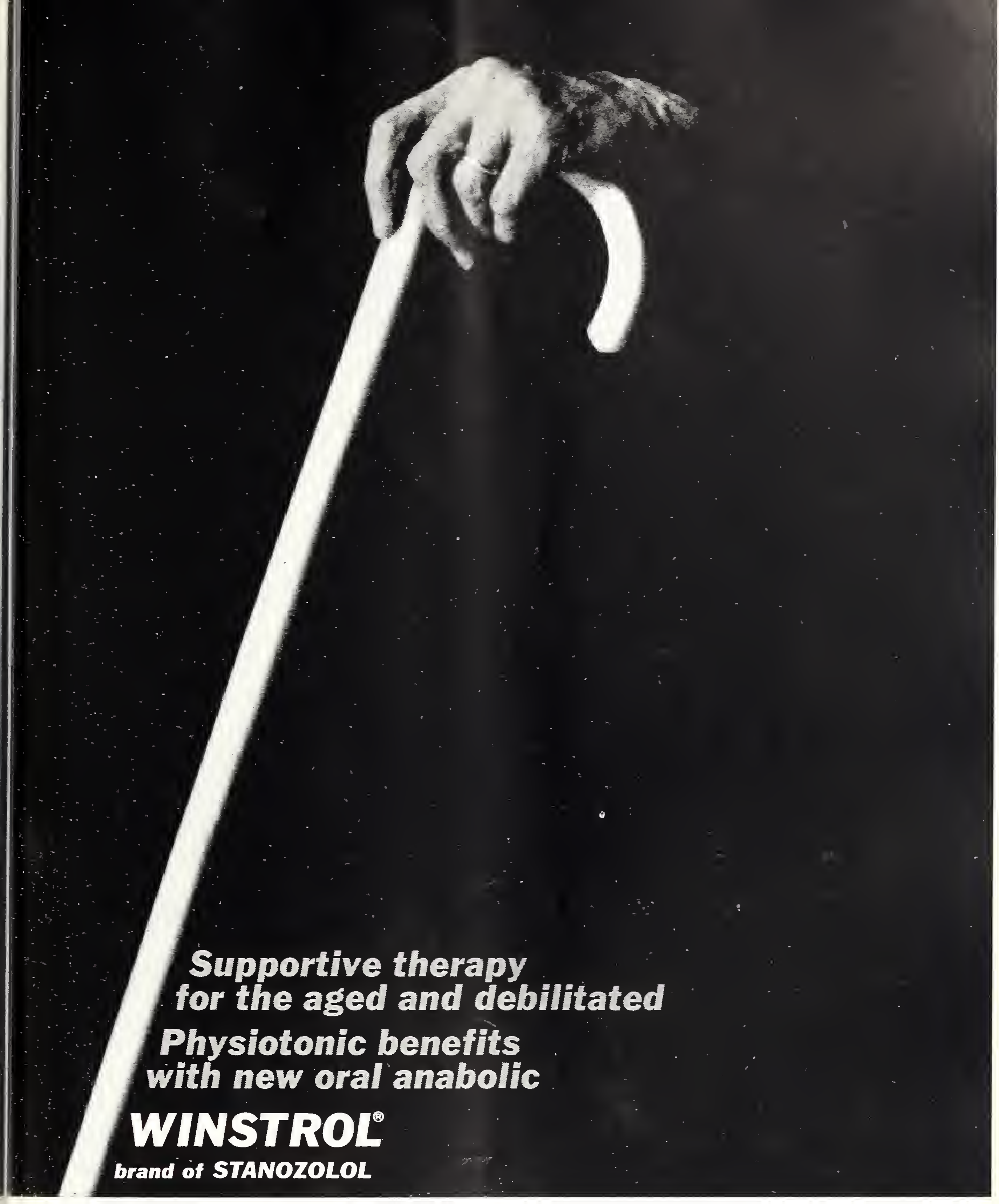
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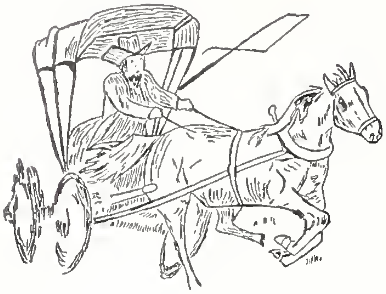
Missouri Medicine in Review



FORTY YEARS AGO

Dr. W. F. O'Malley of Webster Groves, has been appointed county health officer for St. Louis County, succeeding Dr. G. C. Eggers of Clayton.

St. Louis University School of Medicine announced the appointment of Dr. Edward A. Doisy as Professor of Biochemistry, the appointment to take effect August 1. Dr. Doisy is at present Associate Professor of Biochemistry at Washington University School of Medicine.

Dr. Leon Asher, professor of physiology of the University of Berne, Switzerland, delivered a lecture before the members of the St. Louis Medical Society at their meeting March 6, 1923. He was the guest of the St. Louis University Medical School.

Dr. Hanau W. Loeb, dean of the St. Louis University School of Medicine, St. Louis, sailed from San Francisco, February 22, for a tour of the Orient. During his trip Dr. Loeb will make an inspection of the medical schools of Hawaii, Japan, China and the Philippines.

Dr. Percy Brown, noted roentgenologist, formerly of Boston and now of Madison, Wis., will be the guest of honor at a dinner given by the Kansas City X-ray Club, April 6.

Dr. Evarts A. Graham, Professor of Surgery, Washington University School of Medicine, St. Louis, accepted an invitation from the California Academy of Medicine, San Francisco, to speak on "The New Phases of Thoracic Surgery."

The county court of St. Louis County is planning to engage a full time health officer at a salary of $5,000.

TWENTY-FIVE YEARS AGO

The Jasper County Medical Society issued the first number of its new publication, *The Caduceus,* on February 7. The purpose of *The Caduceus* is to keep members of the Society informed on the activities of the Society.

The Women's Field Army of the American Society for the Control of Cancer was organized to "Fight Cancer with Knowledge" in 39 states last year. In Missouri, Mrs. David S. Long, Harrisonville, is commander.

The Missouri-Kansas Neuropsychiatric Association held its annual winter program in Kansas City, Missouri, on February 15 with the day session at the Neurological Hospital and the evening program at the Jackson County Medical Society Auditorium at the Kansas City General Hospital.

The first issue of the *Medical Alumni Quarterly of Washington University School of Medicine* was recently distributed. Dr. Robert J. Terry, St. Louis, is editor of the publication. The chief issue for the present year is the inauguration of group hospitalization in Kansas City and Jackson County. Dream of an executive secretary and business office for the handling of postpayments, credit rating, collections and other medical economic services has been realized. This whole program came during the year 1937.

TEN YEARS AGO

In recognition of more than thirty years of practice on the staff of the St. Francis Hospital, Cape Girardeau, A. L. Fuerth, M.D., was presented a gold watch on January 14 by the hospital and staff.

Ralph A. Kinsella, M.D., St. Louis delivered the main address at the conferring of degrees of 211 graduates of St. Louis University on February 1.

The *Springfield Leader and Press* reports "Highlight of the winter season is always that annual shindig staged by the Greene County Medical Society at the Country Club. Last Monday's affair was no exception, enlivened considerably by the sleight of hand tricks indulged in by (Drs.) John Ferguson and Harold Lurie."

Burge Hospital polio unit and Daniel L. Yancey, M.D., were given a nice write-up in the

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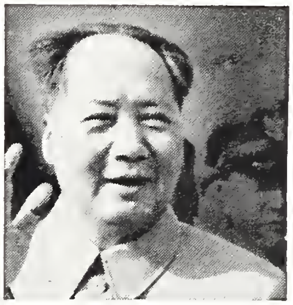

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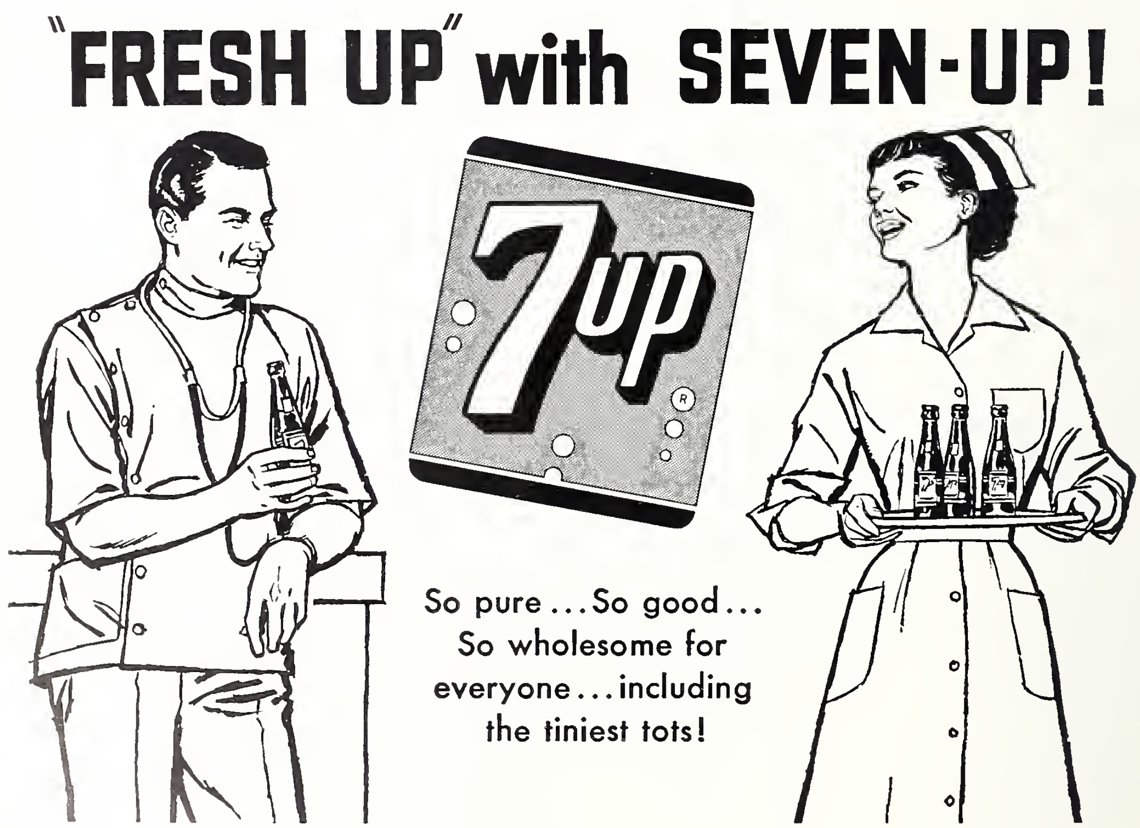
Springfield Leader and Press regarding the outstanding work in the recent polio epidemic. Dr. Yancey was cited as outstanding by the Burge Hospital Administrator.

J. H. Summers, M.D., Lebanon, and Mrs. Summers, took a Caribbean cruise following the Southern Medical Association meeting, going to Jamaica, Caracas, Venezuela, and Trinidad.

Leo H. Pollock, M.D., Kansas City, discussed "Medicine and the Bible" at a dinner meeting of the Episcopal Business Women's Guild on January 13.

Claude K. Leeper, M.D., who completed his term of service in the United States Army in the field of laboratory Medicine, returned to his Alma Mater, the University of Missouri School of Medicine, on January 1, as Assistant Professor of Pathology.

Statistics developed from the record of the State Department of Health indicate a great improvement in the maternal mortality rate for Missouri. In spite of a marked increase in the birth rate, maternal deaths in the state have been reduced so that 70 deaths occurring in 1950 represent less than one sixth of the 435 deaths occurring in 1925. Appendicitis, with 80 deaths, outranked pregnancy in 1950. Whooping cough and measles combined had an equal number of deaths assigned to them in 1950. This lowering of the maternal mortality rate in the state is due, primarily, to better obstetric care of the patient, particularly in the prenatal period, and to the establishment of blood banks in the hospitals.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WASHINGTON

King-Anderson Again

President Kennedy outlined his social security proposal for health care of the aged in his message to Congress February 21. On the same day, Representative Cecil King (D., Calif.) introduced the Administration bill in the House (H.R. 3920) and Senator Clinton P. Anderson (D., N. M.) brought it before the Senate (S. 880). Basically, the proposal is similar to the Anderson-Javits bill which was rejected by the Senate last year. It is using the same arguments and the same political troops are pushing it.

Under the plan, the beneficiary would have three options as far as hospitalization is concerned: (1) He could take 90 days of hospitalization subject to a $10 a day deductible for the first nine days, or at least $20, or (2) up to 180 days of hospitalization with the patient paying the first 2½ days of average cost, or (3) 45 days of hospitalization without a deductible. The bill would also provide 180 days of nursing home care after transfer from a hospital; all costs above the first $20 for hospital outpatient diagnostic services, and 240 home health care visits in a calendar year.

The new Administration proposal differs from last year's Anderson-Javits bill in two ways: (a) It would provide benefits through general revenue to those aged who are not under social security; (b) the "option" to use private carriers has not been included.

Big Tax Jump

As in previous Administration proposals, the bill would increase social security taxes for employed persons by ½ per cent (¼ per cent employee, ¼ per cent employer) and raise the tax base from $4,800 to $5,200. Mr. Kennedy said the health care program would cost $5.6 billion for the first four years. This would average out to $1.4 billion per year. Calculations by the AMA's Department of Economic Research set the first year cost of the program in 1965 at about $2.3 billion. The Department also calculated that at least 31 states would pay more in social security and general taxes than they could anticipate in benefits returned per aged individual. The Administration has continued its mathematical sleight of hand by claiming the bill would mean a social security tax increase of $13 a year for each worker. Actually, for those earning $5,200 a year, the tax increase would be $27.50 annually.

Kennedy Inconsistent

In commenting on the President's proposal, Dr. George M. Fister, AMA President, declared: "There is no fundamental difference between this latest Administration scheme of health care for the aged and others which have been rejected in past sessions of Congress." He said it would force increased taxes on wage earners and employers to buy limited health care for millions of people over 65 who are financially able to take care of themselves.

Mentions Kerr-Mills

In his aged care message, the President covered 36 points. He acknowledged that the Kerr-Mills law has a role to play in the health problems of the elderly. But, he argued that it covers "only a small percentage of those aged who need medical care" because Kerr-Mills' MAA had been enacted in 25 states. Actually, 28 states and three territories have enacted MAA legislation and 35 states, three territories and the District of Columbia have improved or enlarged Old Age Assistance plans under Kerr-Mills. Kennedy called for improving OAA medical care standards to match MAA benefits. He also urged elimination of the 42-day OAA limitation of general hospital care for mental and tubercular patients.

Javits Bill Introduced

On February 19, liberal Republican Senators Jacob K. Javits (N. Y.), John Sherman Cooper (Ky.), Clifford P. Case (N. J.), Kenneth B. Keating (N. Y.), and Thomas H. Kuchel (Calif.) introduced a bill (S. 849), which is also substantially similar to last year's Anderson-Javits bill. It would be financed by social security taxes and provide an option under which beneficiaries would have a choice of receiving hospital benefits through private carriers, rather than through the federal government.

At the time of the bill's introduction, Senator Cooper stated: "If the Administration insists upon a bill which does not provide effective choices to the beneficiaries who contribute to the social security system—choices which will enable them to more fully meet their health care needs through private insurance plans—and if, thereby, the Administration denies participation in the private voluntary health care plan, I will not vote for any Administration bill which excludes this free choice by the beneficiaries."

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Designation of the second National Poison Prevention Week, March 17 to 23, focused attention on the eight Missouri hospitals which have been approved as poison information centers by the Missouri Division of Health.

These centers provide information to the private physicians throughout the state to assist them in the treatment and control of incidents of poisoning. Information centers operating in Missouri at this time are not generally known or announced to the public. They are oriented to the needs of the physicians. A telephone call to the nearest center will make available to the physician calling all known and available information.

To be approved as poison information centers, these basic standards must be met:

1. Maintenance of an up-to-date card file on all poisonous substances, with the antidote for each, if known.
2. Information must be available 24 hours a day.
3. One person must be appointed in charge of the center, usually a physician, and an alternate appointed to serve in his absence.
4. The center should keep records of the number of calls for information, the age, name and address of the suspected case, type of toxic substance and amount ingested, and the name of caller and the information given to him.
5. Information reports should be sent to the nearest district Public Health Office so a public health nurse can follow up with an educational visit to reduce or eliminate the same future hazardous condition to prevent a repeated instance of poisoning.

The National Clearing House for Poison Control Centers sends regular bulletins to the centers with information on the latest data on toxic substances. The centers in turn report unusual cases to the national office. This interchange of information expedites treatment as well as helping to control and eliminate the recurrence of hazardous situations through follow-up visits by the public health nurses.

The Missouri centers are located in:

Cape Girardeau, St. Francis Hospital, 825 Good Hope St., Telephone Edgwater 5-3375, Sister Venard, R.N., and Sister Barbara, R.N.

Columbia, University of Missouri Medical Center, 807 Stadium Rd., Telephone Gibson 2-5111, Ext. 248, Marjorie Dale, M.D.

Joplin, St. John's Hospital, 2226 Jackson St., Telephone Mayfair 4-1085, Joseph Jud, Phg., and James Mack Davis Jr., Phg.

Springfield, St. John's Hospital, 1235 Cherokee St., Telephone University 4-3553, Ext. 282, Keith Carender, Phg., and Howard R. Edmonds Jr., Phg.

Kansas City, Children's Mercy Hospital, 1710 Independence Ave., Telephone Grand 1-5250, Herbert C. Miller, M.D.; Kansas City General Hospital, 2400 Cherry St., Telephone Harrison 1-8060, Ext. 257 or 235, E. Frank Ellis, M.D.

St. Louis, Cardinal Glennon Memorial Hospital for Children, 1465 S. Grand Ave., Telephone Mohawk 4-7222, Ext. 216, James P. King, M.D.; James Lo Piccolo, M.D.; St. Louis Children's Hospital, 500 S. Kingshighway Blvd., Telephone Forest 7-6880, J. Neal Middlekamp, M.D.

To Get Drunken Drivers Off the Roads

One of Governor Dalton's key traffic safety measures—to get drunken drivers off the highways—was passed by the Senate late in February and was sent to the House. The bill passed the Senate 28 to two.

The bill makes driving while intoxicated a graduated offense. Presently it is a felony and authorities have said they have a difficult time getting convictions because the felony carries penitentiary time.

Under the bill, the first two offenses would be misdemeanors and the third and subsequent would be felonies. Even under the third offense the violator could be sentenced to county jail instead of the penitentiary if the court or jury so decreed.

At the present time, a drunken driving conviction automatically suspends a violator's license for a year under the "point system" law passed two years ago.

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By Alexander S. Nadas, M.D., F.A.C.P., Assistant Clinical Professor of Pediatrics, Harvard Medical School; Cardiologist, The Children's Hospital; Physician, Sharon Cardiovascular Unit, Children's Medical Center, Boston. About 768 pages, 6⅜" x 9¾", with about 529 figures. About $16.00. *New (2nd) Edition—Ready May!*

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In this fully revised *New (2nd) Edition,* chest diseases are presented concisely and understandably to give you thorough step-by-step details of management. Under each disease the authors discuss: *background, incidence, statistical distribution, diagnosis, symptoms, pathology and classification, radiologic appearance, treatment and prognosis.* Important sections cover topics ranging from *bronchial asthma, bacterial and viral pneumonia, etc., to foreign bodies in the larynx and tracheobronchial tree, and coccidioidomycosis.* In this new edition you'll find a completely new section on *Pulmonary Function* and a marked expansion of the material on *Carcinoma of the Lung.* Many new chest films have been added. Chapters on *bronchitis* and *emphysema* are extensively re-written and expanded. The entire book is up-dated throughout.

By H. Corwin Hinshaw, M.D., Ph.D., D.Sc., Clinical Professor of Medicine; and L. Henry Garland, M.B., B.Ch., MD., Clinical Professor of Radiology, University of California School of Medicine, San Francisco. About 800 pages, 7" x 10", with about 650 illustrations on 312 figures. About $20.00. *New (2nd) Edition—Ready May!*

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This up-to-date *New (2nd) Edition* is packed with specific answers for the questions your patients ask you about heredity. Thousands of physicians profited from the first edition of Dr. Reed's book. He gives you concise facts on the chances of a disease or abnormality being transmitted from parent to child. Almost every chapter is devoted to a common genetic problem.

You'll find lucid advice on the problems of *mental retardation, mongolism, club foot, obesity, convulsive seizures, the schizophrenias, harelip and cleft palate, the central nervous system syndrome, disputed paternity, allergies, genetic effects of radiations, heart diseases, skin color, etc.* Illustrative examples show how the information is used in actual practice. They show types of requests for genetic information which have come to the author from agencies, physicians, parents, etc. The reply given to the questioner and the follow-up information obtained later is included.

Major attention is paid to diseases or abnormalities that appear with a frequency of better than one in 1,000 births. The Appendix lists practically all traits that may be transmitted to children. Dr. Reed gives a reference for each one—usually the most recent authoritative article known to him. You'll find listings of such traits as: *adrenal hyperplasia—Dandy-Walker syndrome—pancreatitis—retinal aplasia—Wilms' tumor—etc.*

Recent advances in the area of medical genetics have required a complete rewriting for this revision. New chapters cover *Cancers, The Chromosome Breakthrough,* and the *Environment.* The wealth of counseling experience available to the author has grown to over 2500 "cases," all handled at the Dight Institute for Human Genetics.

By Sheldon C. Reed, Ph.D., Director, Dight Institute for Human Genetics, The University of Minnesota. 278 pages, 5¾" x 8". About $5.50. *New (2nd) Edition—Just Ready!*

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C. G. STAUFFACHER, M.D., Secretary

Missouri Academy of General Practice

Seventy-five physicians from southwest Missouri attended a Postgraduate Seminar on Surgery at Galli's Half-A-Hill Restaurant in Springfield on Friday afternoon and evening, February 22. This surgical seminar was sponsored by the southwest Missouri Chapter of the MAGP and Eli Lilly and Company in cooperation with the Greene County Medical Society.

Speaker and officers were seated at the head table.

The program began at 5:00 p.m. with a fine discussion of "Recent Developments in the Acute Supportive Care of the Injured," by Carl A. Moyer, M.D., Professor and Chairman of the Department of Surgery at Washington University Medical School in St. Louis. Dr. Moyer requested participation from the audience with questions at anytime during his formal presentation. His request was accepted and implemented fully. Following this presentation, time was taken for a short social reprieve and dinner.

Following dinner the second part of the surgical seminar was presented by Dr. Moyer. His subject this time was, "The Surgical Correction of Occlusive Disease of Major Arteries." This subject had been scheduled to be given by Jessie L. Ternberg, M.D., of the Department of Surgery of Washington University, but illness interfered with her being present. Again, Dr. Moyer covered an important subject in an excellent manner and found much interest on the part of his audience in his discussion. This seminar is acceptable for four hours of Category I Credit by the AAGP and many of the 75 physicians present were members of the Academy. This postgraduate affair was presided over jointly by Dr. Harry Silsby, Springfield, President of the Greene County Medical Society, and Dr. T. M. MacDonnell, Marshfield, Vice President, Southwest Missouri Chapter of the Academy of General Practice.

Those physicians seated at the head table in the accompanying picture are: Drs. T. M. MacDonnell, Marshfield, Vice President, Southwest Missouri Chapter of the Academy of General Practice; Charles Lockhart, Springfield, President, Missouri Cancer Society; Carl Moyer, Speaker; Mary Jane Newman, Cassville, President, Southwest Missouri Academy; Doyle McCraw, Bolivar, Councilor, Eighth District, MSMA; and Harry D. Silsby, Springfield, President, Greene County Medical Society.

Seventy-five physicians attended the meeting.

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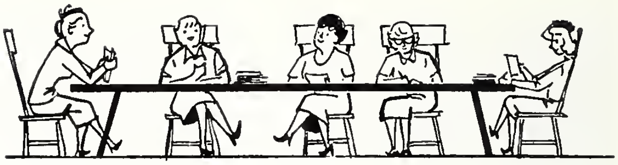

My title is still President-Elect when this article is written and many of my days are spent working at my desk on committee appointments or trying to absorb all the details that will confront me in the coming year. Because our Convention is later this year, my second article will also be partly prepared before my installation so I cannot speak officially for some time. I can say that the indoctrination has been very thorough. Venus Schattyn, as President, has not only attended to all of her myriad duties and problems, but has graciously taken time out to advise me and answer dozens of questions. The Past Presidents, individually and as a team at meetings, coach and encourage. So by this time, I have come to be aware of my future responsibilities and to be able to provide some of my own solutions.

Mrs. L. S. Crispell

There are days when I feel it is impossible for me to assume the office of President; there are so many others who are far better qualified. My devotion to Auxiliary goes back a long time for I started as a medical student's wife. That was in Connecticut, and New York and New Hampshire Auxiliaries were added to the list before we became Missouri residents 10 years ago. My family and I have all become whole-hearted rooters for our adopted state, so that dedication to Auxiliary and my keen interest in my state form the foundation of my eligibility.

During this year, I have visited three Auxiliaries with Venus; I have attended our own State Convention in St. Louis, the National Convention and the National Conference in Chicago, and our own Fall Conference in October in Hannibal. It has been my job to keep the Archives, to be Chairman of the Reading Committee, and to conduct a panel on "Communications" at our Fall Conference.

Stress has been laid this past year on the importance of our planning programs to show the public that legislation was not our only interest. Practically all of the auxiliaries have arranged for at least one health meeting of some kind for the public. I think this emphasis on good public relations should be continued. I quote from the National Handbook: "What the doctor's wife does with her spare time, how she meets people or answers the telephone, her conversation among friends, her work as a citizen, church member or a club member—all have a direct bearing in promoting understanding between the medical profession and the public. The program and projects of the Auxiliary are of no value unless their influence reaches the local level. The measure of our contribution to the health of the community creates our public relations. It is necessary for the Auxiliary and individual members to be good, to do good, and to tell the public about it."

Our Auxiliary "Point System" has served as an incentive for such projects: a health film shown at a local theater, a panel of physicians discussing problems of "Mental Health" or "Senior Citizens," and speakers on "Civil Defense," "Safety," or "Legislation."

Any of these, and more, do promote good public relations and we are proud of the work our county auxiliaries are doing to advance these projects in their communities. Individually, they bring the program to the local level; totally, their efforts are responsible for Missouri's outstanding reports.

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Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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VERNON E. WILSON, M.D., *Columbia*

Annual Progress Report on the University of Missouri School of Medicine

Progress at the University of Missouri School of Medicine during the last year is outlined by Dr. Wilson, together with aims that are still to be met. Each year, as the University of Missouri School of Medicine furnishes the scientific material for the April issue of MISSOURI MEDICINE, Dr. Wilson gives a progress report of the school and general information about the school to the physicians of Missouri.

Dr. Wilson is Dean of the School of Medicine and Director of the Medical Center.

AT THE TIME of this, the fourth annual progress report, the elusive rapidity of the passage of time is even more impressive. Only the increasing circle of personal friends and a close review of past events can even partially keep time in perspective.

The faculty of the School of Medicine and the University administration join in extending to the medical profession heartfelt thanks for assistance in time of difficulty, thoughtful criticism in time of error and, most of all, evidence of satisfaction when we have succeeded. If the University of Missouri School of Medicine has a "Hallmark," it is the warm cooperative reception which it has enjoyed from the practicing profession and the many agencies of the state. The level of health care in Missouri will continue to have an unparallelled rise in the coming years if these mutual concerns and endeavors can be nurtured and increased.

As in the initial report, activities will be artificially divided, for discussion purposes, into Education, Service and Research. At the same time it must remain clear that the success of each is dependent upon artfully inter-twining it with the whole until, in action, the three are indistinguishable one from the other.

EDUCATION

The reason for the existence of a university (and its school of medicine) lies in its ability to create and store information for the ultimate purpose of transmitting it to students either young or old. Without an educational responsibility the university would be a dead and meaningless institution. To this end the School of Medicine has devoted a significant part of its effort to the study of the process of education itself.

An Education Committee meets regularly to discuss the philosophy and principles of education, and makes frequent suggestions to the Executive Faculty for improvements. The most recent studies of research in education and educational technics are continually reviewed to determine if they can be helpfully applied in the school of medicine. In this manner it is hoped to continually improve the already fine teaching program.

A Conference on the "Changing Character of Medical Education" was held last fall to which leading educators from other universities, both inside the field of medical education and from the general university family, were invited. This was conducted as a closed workshop for the faculty, and is being followed by a series of intensive intramural faculty discussions of the curriculum and teaching program at Missouri.

The Dean has served as a keynote speaker for a similar conference at the University of Nebraska, has participated in the planning of a national Teaching Institute for medical faculties, and is one of the six elected members of the Executive Council, the administrative body of the Association of American Medical Colleges. These accomplishments are, in my opinion, simply marks of the national endorsement of the quality of the educational program at the University of Missouri.

The most important part of any program is the people involved. In this, your school has been particularly fortunate in all categories.

Students.—Approximately 800 young people are attending full-time educational courses in one or another of the health professions in the medical center. The number of applications for admission to medical school continues to increase and the academic qualifications of these students to improve. Eighty-five students are accepted in each first year class, a limit which will be in effect until more classroom facilities and faculty are available.

Applications to the School of Nursing have become so numerous that a selective admission process has become necessary. Only more space and faculty will make it possible to further increase this valuable program.

New programs in occupational therapy and x-ray technology have been established and a program in physical therapy is now being designed. A masters program in nursing has been approved by the graduate school of the university and the supplemental program to provide degrees for nurses from diploma programs continues to flourish. In all programs the academic preparation of new students continues to improve.

Faculty.—All of the medical specialties are now represented on the full-time teaching faculty. Recent additions have included thoracic surgery, radiation therapy, otolaryngology, plastic surgery, orthopedics, neurology and dermatology. Resident training programs have now been established in all of these disciplines except plastic surgery and neurology in which a request is being processed.

Our faculty has achieved national acceptance and is much sought after by other institutions. We are both proud and sorry to announce that Dr. Theodore Keats in radiology will be leaving this year to become Chairman of the Department of Radiology at the University of Virginia School of Medicine, a responsible post in an old and illustrious school.

Cooperative Teaching Programs—On Campus.—More than 1,000 students from other parts of the campus enroll in courses for credit in the medical school. Such cooperative programs are in existence with all schools on the campus and include students from Social Work, Special Education, Engineering, Veterinary Medicine, Graduate School, College of Liberal Arts and others. In turn, medical students, nursing students, faculty and staff are enrolled in most of the other university divisions in Columbia to strengthen their own education. The new Ecology field station from the Heart Disease Control Unit of USPHS is another excellent example of cooperative endeavor.

Off Campus.—Elsewhere strong affiliations have been developed. These include affiliation (1) with the Division of Health for resident programs at the Ellis Fischel State Cancer Hospital and the development of better programs in Community Health, (2) with the Division of Mental Diseases for the construction and operation of an intensive treatment center in Columbia, (3) with Kansas City General Hospital and Children's Mercy Hospital in Kansas City for the administrative direction of the educational programs for interns and residents in those hospitals, (4) with St. Luke's Hospital in St. Louis for the training of residents in neurosurgery, (5) with the Woodhaven Christian Home for Children (Columbia) for the care of the handicapped child, and (6) with the Mental Health Foundation of Kansas City for both resident training and medical student teaching. Active discussions are now in progress with the administration of the University of Kansas to explore additional cooperative educational programs of mutual benefit.

In postgraduate education, the Extension Division of the University, the School of Medicine, the Division of Health, the Academy of General Practice, and the MSMA work together in an annual planning session to improve the offerings (for practicing physicians) at Columbia. A Speaker's Bureau is also available for the convenience of the program chairmen of local medical societies. Programs may be secured by writing or calling either the Dean's Office or the Office of Postgraduate Medical Education.

SERVICE

The medical center continues to serve as a consultant for the family physician. Patients are admitted upon the request of a physician and referred back to him at the completion of the immediate episode of illness. The volume of requests and the newness of some of the services has not allowed a faultless development of this system, but constant vigilance is being exerted to produce continued improvement. Your helpful criticism is solicited.

Outpatient visits are now scheduled at a rate of 60,000 visits per year compared to 33,000 in 1959-1960, the time of the original report. All 441 beds are in operation in addition to 40 dormitory type beds for the OPC and the average hospital census is close to 80 per cent. The average length of patient stay continues to shorten and the center is approaching the goal of 10,000 admissions per year necessary for the present and planned teaching program.

Despite these increases in the number of patients accepted, the center has been unable to accept all the referrals. Some misunderstandings still exist and merit a brief treatment here. Patients are admitted according to the following criteria: (1) Can the medical school provide a service not readily available in the home community. (2) Will the care provided make a contribution to the teaching program. (3) Are beds, assigned to this category of care, available. At the risk of being monotonous, I should like to repeat that indigency alone is not a reason for admission. "Patients are admitted regardless of ability to pay not because of inability to pay." Some patients who are able to pay have chosen to ignore their incurred obligations and in these instances more stringent steps are being considered. Your counsel to referred patients about these matters is appreciated.

It is obvious that our ultimate goal and chief responsibility is to produce health personnel who can give care as close to the home of the patient as possible. At the same time this can only occur if the referring physician assists in the selective referral of patients so that a maxium number of students can be taught with a minimum number of beds and expense in an accredited and high quality teaching program. Our efforts will be bent toward the attempt to help in the solution of community service problems in every way possible. The physicians' help is essential.

The impact of selective referral upon patient care cost will be described later.

RESEARCH

The growth of research has been gratifying. A limit on the total research activity has been established to prevent its encroachment upon educational programs. Our goal is to provide the full-time faculty approximately one-half of their time for research and/or self-development. Only in this way can the deluge of new information be digested and transmitted to both students and practitioners.

Illustrative research projects include the design of a completely artificial heart, a new cardiac pacemaker, new types of tissue transplantation, the preservation of cornea for later transplantation, the study of the cause of cancer and leukemia, the process of aging, the detection of cancer, the use of data handling systems in medical care and numerous others. Many of these have direct application to patient care; some simply add to the basic store of information from which applications will be developed at a later time.

Research activity is essential if faculty is to be attracted and held. The merit of our program has been recognized by a $750,000 grant, which must be matched by state funds, for the construction of an addition to the medical science building. Additional federal grants for educational facilities on a matching basis can be expected if the legislature is able to appropriate the necessary funds. Such funds would allow an increase of fifteen in the number of graduating physicians as well as an increase in the output of nursing and other ancillary personnel.

BUDGETARY SUPPORT

The total budget requested for the medical center is $7,247,694 for 1963-1964 and $7,709,873 for 1964-1965. Of this $1,445,000 will be earned from fees and patient care in 1963-1964 and $1,470,000 in 1964-1965. More than 1,200 full-time people are required to produce the highly specialized demands made upon the Medical Center. At the same time, the cost per day patient care is the lowest in all but two of 17 comparable educational institutions (one of the two is having accreditation problems). The budget requested will meet the need; any reduction might well be disastrous. Our confidence in the accuracy of the present predictions for appropriation needs is further reinforced by the fact that similar predictions for the present biennium were within ½ of 1 per cent (lower) of the now demonstrated need.

One of the reasons that our costs continue to

(*Continued on page 343*)

S. P. W. BLACK, M.D., *Columbia*

Experimental Saccular Aneurysm by an Arterio-Venous Fistula Method

Rupture of an intracranial aneurysm is the most common source of spontaneous subarachnoid hemorrhage in the adult. The treatment of this type of brain hemorrhage is a challenging one. This presentation concerns one type of intracranial aneurysm, the small saccular or congenital variety, about which little is known of their physiology and finer anatomic features. In the belief that information about aneurysmal hemodynamics, as studied in experimental animals, will eventually prove of help to the clinician, a technic was evolved to produce experimental aneurysms on the carotid artery of the neck of the dog. The anatomic inter-relationships of the aneurysms were studied by means of rubber base molds made of them after removal from the animal. By so doing additional information has been gathered concerning the relationship of the volume of the aneurysmal sac to the size of its opening in the parent artery.

Dr. Black is from the Department of Surgery, Section of Neurological Surgery, University of Missouri School of Medicine, Columbia.

This work was supported by a grant from The National Institutes of Health (USPH 1-GS-87).

Rupture of an intracranial arterial aneurysm is the most common source of severe spontaneous subarachoid hemorrhage in the adult. Dandy, commenting upon the general age incidence, stated that few cases are found before the age of 20 years but thereafter each decade contributes about equal numbers until 70, after which the frequency declines.[1] Two common types of intracranial aneurysms are recognized—the large, fusiform, arteriosclerotic variety and the smaller, "berry" or saccular aneurysms which are of congenital origin. It is with the latter type that this paper primarily deals.

The treatment of a patient with a ruptured intracranial aneurysms is always a challenge. No one method is accepted by all. There are those who favor surgical intervention and those more conservatively disposed.[2, 3, 4] This is not surprising when one considers the many factors involved: the variety of locations on the arterial tree at which the lesion can occur, the severity of the individual bleeding episode, attendant brain damage and the patient as a whole. Furthermore, little is actually known of the physiology of aneurysms before they rupture. Those occurring clinically are seldom fit subjects for study in their functioning state, and the ruptured aneurysm disclosed at autopsy is obviously far different than it was during life. Few published postmortem studies describe accurately even the external measurements of intracranial aneurysms.[5]

It would appear then that, if the workings of an intact saccular aneurysm are to be known, the knowledge must necessarily come largely from a study of similar structures that have been produced in animals. This is not a new thought. Two centuries ago John Hunter tried this by damaging mechanically the arterial wall but without success.[6] More recent attempts have aimed at destruction of the wall by noxious agents.[7] White, Sayre and Whisnant reported the successful production of small saccular aneurysms intracranially in dogs by injecting hypertonic saline into the wall of the internal carotid artery.[8] This technic would appear to have promise. In 1954 German and Black were successful in producing "berry aneurysms" upon the common carotid artery in the dog's neck by sewing an excised pouch of external jugular vein, closed at one end, over an opening in the artery. These lesions were large enough and accessible enough to permit analysis of the hemodynamic forces playing upon them and were a reasonable facsimile of those occurring intracranially in man.[9] The procedure to be outlined herein is a refinement of their earlier technic.

METHOD

This procedure was designed to make a small, patent, saccular "aneurysm" for experimental purposes on the common carotid artery of the dog.

The external jugular vein and common carotid artery were isolated after the animal, a mongrel dog, had been anesthetized with intravenous pentobarbital sodium, 25 mgm./kg. Gentian violet was used to outline on the unclamped artery the area to be excised (fig. 1). Other than the excision, the arterial wall was not altered. The opening was elliptical, longer in the longitudinal direction and not more than half way around the artery laterally. Anastomosis of the vessels was begun by anchoring the vein at four equidistant points about the arterial opening with 6-0 oiled silk. Each anchoring suture was tied. The process was completed in four stages; the length of suture bearing the swedged-on needle was, after completing its quadrant, tied to the non-needle-bearing part of the next anchoring suture. An over-and-over type of stitch was used.

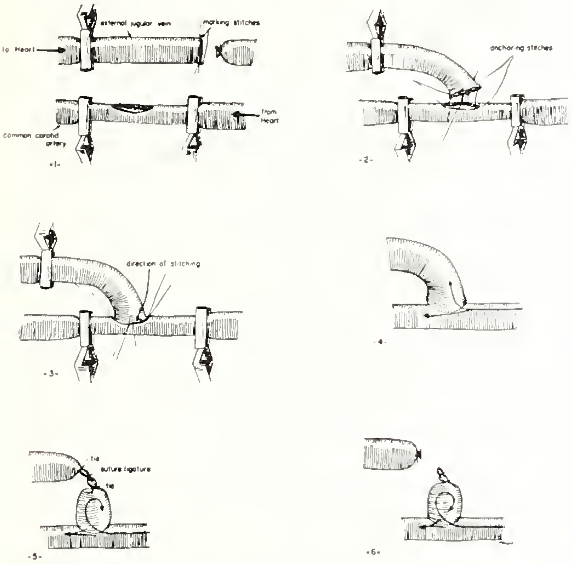

Fig. 1. The external jugular vein and common carotid artery were isolated.

The arteriovenous fistula thus produced was allowed to function for half an hour. During this time measurements were made of the arterial opening and diameter of the vein. At operation a metal rule graduated in millimeters was employed; accuracy was aided by the use of loupe glasses. No correction was made for the thickness of the vein wall included. Employing the formula for the area of an ellipse, the size of the orifice was estimated. The volume of the vein at any distance from the artery could be closely approximated by using the formula for a right circular cylinder, a geometrical form it resembled at that stage of the procedure. Ligation of the vein was then done at such a distance from the orifice that the numerical value for the volume (cu. mm.) of the resulting sac was 10 to 15 times as great as the numerical value for the area (sq. mm.) which had been estimated for its orifice. The proximal ligature was 3-0 silk tied outside the lumen; beyond that was a suture-ligature of 4-0 silk. The closed pouch was then parted from the parent vein whereupon it assumed a more or less spherical shape. It was then remeasured, and the size determined by using the formula for the volume of a sphere.

The aneurysms were allowed to function for arbitrarily chosen intervals. Anticoagulants were not used. Immediately after a patent graft was removed, a synthetic rubber base* cast was made of its chamber and lumen of the artery (fig. 2). This provided a permanent and, by the standard of measurement used, true record of its internal features. Measurement of the cast was made with calipers, magnifying glass and a scale graduated in one-tenth of a millimeter.

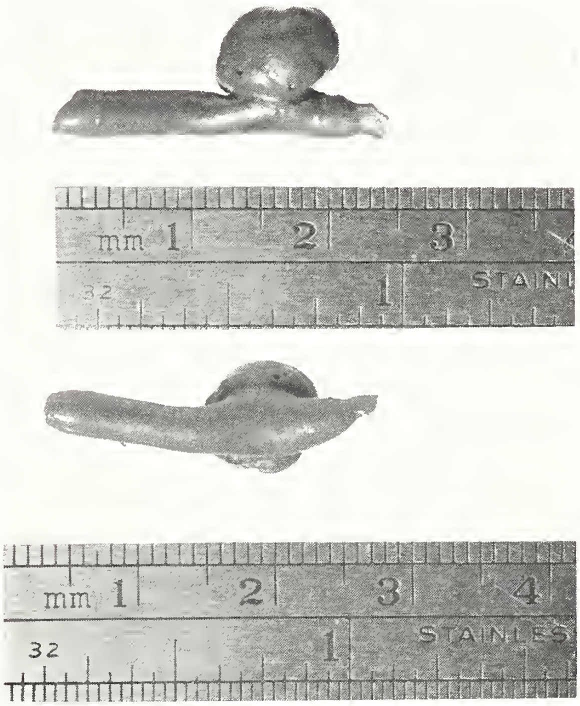

Fig. 2. Lateral and base views of the synthetic rubber base cast of an aneurysm made by the arterio-venous technic. It had remained patent 52 weeks. Direction of blood flow was from left to right.

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* "Permlastic" (light bodied), made by The Kerr Manufacturing Company, Detroit, Mich.

Results

This procedure was attempted on 10 occasions with seven successes. Individual characteristics of the patent aneurysms are tabulated (table 1).

TABLE 1

PATENT ANEURYSMS ARRANGED AS TO LENGTH OF TIME THEY WERE ALLOWED TO FUNCTION

	Placement (measured while functioning)				*Removal (measured on rubber base casts)*		
	Area* of orifice (mm^2)	Volume* of chamber (mm^3)	v ÷ a	*Time (weeks)*	Area* of orifice (mm^2)	Volume* of chamber (mm^3)	v ÷ a
1.	31.4	288.8	9.2	1	26.4	297.3	11.3
2.	11.8	65.5	5.5	2	10.4	81.6	7.9
3.	28.4	210.5	7.4	4	22.0	242.9	11.0
4.	18.6	179.7	9.7	5	17.0	256.3	15.1
5.	25.1	394.7	15.7	10	19.2	179.7	9.4
6.	12.6	92.0	7.3	29	11.3	70.3	6.2
7.	22.0	179.7	8.2	52	23.5	230.3	9.8

* All areas were calculated by the formula for an ellipse, all volumes by that for a sphere.

Comparison of the measurements of an aneurysm at the time of its placement with those of a synthetic rubber base cast of it after its removal is to be approached cautiously. The measurements at the time of placement were performed on a functioning vein graft, on a pulsatile artery, deep within a wound, and with as little distortion as possible of the structures being measured. In general the figures agree reasonably well. It is possible that specimen 4 enlarged; it is probable that specimen 5 diminished in size, although neither differs from the average change in volume of this series by more than two standard deviations.

Of the three failures, two were the first attempts. In both those cases the fistula was allowed to function three weeks. And in each instance, while subsequently trying to isolate the vein, severe bleeding ensued. Its control resulted in irreparable damage to the fistula. Thereafter the procedure was completed in one day. The third failure was due to thrombosis of the graft. It was discovered three weeks after placement. At that operation the vein had been inadvertently and excessively torn during the anastomosis. Its repair resulted in reefing of the vessels; the orifice was narrowed and the graft was skewed.

Discussion

This paper has two objectives. One is to present a surgical technic for the production of a small saccular aneurysm; the other is to add information concerning aneurysmal hemodynamics as revealed by measurement of the individual aneurysm's chamber volume and orifice area.

The technic stems from observations made previously upon a series of "berry" aneurysms produced by a different method.[9] In that former series, measurements of patent aneurysms, after removal from the animal, showed that the numerical value for the volume of the chamber, when divided by the numerical value for the area of its orifice, did not exceed 23.6 to 1.[10] This indicated that the chances of producing a functioning aneurysm would be enhanced if a patency-favoring ratio of chamber-volume to orifice-area was surgically provided. Such was the working hypothesis for the present technic, and the results tend to strengthen it.

The chamber-volume to orifice-area ratios in the present series, ranging from 6.2/1 to 15.1/1, probably do not indicate the whole spectrum within which a saccular graft will remain patent. Nor do they indicate the extremes of interrelationship beyond which a graft will, on the one hand, be so bulbous as to be improperly irrigated and thrombose, or, on the other, be so wide-mouthed and flat as to be indistinguishable as an aneurysm.

If specimen 5 did indeed diminish in size it could have done so for several possible reasons. The chamber itself might have been compressed by surrounding tissues or have become slightly tilted; the orifice could have contracted as the artery rearranged itself within the dog's neck and thus was not able to irrigate a chamber of the original volume but could do so with a sac of smaller volume. The absence of clot within the chamber, when it was examined after removal, would tend to favor the former explanation. If specimen 4 enlarged, it did so because the forces favoring expansion—pressure of the blood, jet action through the orifice, a temporarily weakened vein wall—at least transiently exceeded those sustaining it such as the connective tissue of the adventitial coat.

The use herein of a chamber to orifice ratio is but a convenient way to express an anatomic proportion which may be of importance physiologically. Its usage does not exclude from consideration other hemodynamic forces such as pressure, turbulence, jet action and qualities of the blood itself, which play upon an aneurysm and influence its activity. But if the volume/area quotients tabulated in these and previous experiments do define, even roughly, a characteristic spatial intra-relationship, a sort of functional constant, then an addition has been made to an understanding of aneurysmal hemodynamics.

These findings might have a clinical application. For example, after an intracranial aneurysm has been visualized by arteriography and the volume of its chamber estimated, the size of the orifice, or "neck," might then be estimated by applying roughly the volume/area ratio indicated herein. The size of the "neck" is not always determinable from the arteriogram alone.[11] Additional information of this nature could doubtless be of aid to the neurosurgeon approaching an aneurysm at operation with an occluding clip or ligature.

SUMMARY

A surgical procedure has been described for making an experimental saccular aneurysm by ligating the venous side of a carotid artery-juglar vein fistula in the dog. The method is based on the hypothesis that a saccular aneurysm, in order to remain patent, must be so proportioned that the volume of the chamber and area of its orifice are within certain limits. This can be expressed numerically as a ratio. The volume/area ratio fashioned at operation in this series was in the order of 10-15/1. Seven aneurysms remained patent. Three failed, each the result of a mechanical error. Analysis of the results add to an understanding of the quantitative features of the anatomy of small saccular aneurysms.

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PROGRESS REPORT

(Continued from page 339)

rise lies in the fact that selective referral tends to increase the proportion of extremely sick patients, since such patients receive preference in the admission process. A few illustrations follow and are indicative of the problems but do not constitute a comprehensive description of them. The artificial kidney is a life saving device in certain types of poisoning and acute kidney disease. Each operation of the kidney costs $250 and it is occasionally scheduled for three such operations in a day. Acute bleeding problems due to disease or trauma have sharply increased the need for blood. The use of drugs, anesthesia and supplies have skyrocketed with the addition of new specialties. These categories alone have produced costs which exceeded predicted demands by $200,000 during this year and are the direct result of the more acute nature of illness of the present patient population.

FUTURE NEEDS

The heartening support of the Missouri State Medical Foundation, established by the MSMA, has been an invaluable aid in the recruitment of promising students. Direct assistance by physicians in recruitment has been equally valuable. With your help, the quality of our graduates will continue to improve; without it, we are doomed to disappointment.

Contributions to the AMA-ERF have been vital in providing the fluid funds needed to secure and hold outstanding faculty not provided for in our budget requests.

Completion of the Medical Science Building, expansion of the outpatient clinic, facilities and the addition of a permanent building to replace the temporary dormitory for patients remain the major construction needs.

Perhaps, most important is the continued interest and support of those who made this school possible and who continue to assist by encouragement, advice and criticism. We believe our charge to be the faithful stewardship of this program for you, and our mutual desire to be the development of a health education program of the highest possible quality at the lowest cost compatible with such quality.

BERNARD S. STRAUSS, Ph.D., ***Chicago***

Gene Action

Symposium on Genetics

The three papers presented in this symposium, by Dr. Strauss, Dr. Gardner and Dr. Hartman, were presented in a Symposium on Genetics presented at the University of Missouri School of Medicine, November 12 and 13, 1962. The symposium was cosponsored by the College of Agriculture, and the Extension Division, and the Missouri Academy of General Practice.

Dr. Strauss is Associate Professor of Microbiology at the University of Chicago, Chicago.

"DeVries long ago suggested that the primary product (of the gene) is much like the gene itself and produced by a process akin to its duplication and he thought that this product then migrated into the cytoplasm to do its work." Muller, Pilgrim Trust Lecture (1947).

It is now quite evident that the genes, or at any rate some genes, control protein function. The malfunction of hemoglobin in sickle cell anemia is the result of the production of an abnormal protein due to the function of a mutant form, or allele, of the normal gene.[42] The psychological and physiological symptoms of phenylketonuria result from an hereditary deficiency of protein fraction I of the phenylalanine oxidizing system.[38] An extensive list of protein lesions resulting from gene change can be prepared.[12]

In some cases the changes in function are due to a lowered quantity of normal protein. The more informative cases have been those in which the protein is altered in structure as a result of the gene change. Sickle cell hemoglobin, and in fact a host of mutant hemoglobins and globulins, have altered electrophoretic properties. Tyrosinases in neurospora, controlled by allelic forms of the same gene, differ in their heat sensitivity.[26] Tryptophan-requiring mutants of neurospora and of *E. coli* produce enzymes with altered catalytic ability but with serologic specificity close to that of the normal tryptophan synthetase.[63] Even mutants which have lost a specific enzyme often produce a reminder of the original protein in the form of serologically cross reacting material (generally written CRM and pronounced "crem").

Ever since the demonstration by Ingram[29] (1956) that the sequence of amino acids in sickle cell hemoglobin differed from that of the normal by a single amino acid change in one position of the peptide chain, it has been assumed that the genetic control of protein structure is exerted by control of amino acid sequence. Prior to this demonstration and the subsequent discoveries it was perfectly reasonable to suppose that the genes controlled protein function by determining only the three dimensional protein configuration. The viewpoint has changed so drastically that it is now an article of faith (largely unproven) that genes determine only the linear amino acid sequence and that the three dimensional structure of native protein is an inevitable consequence of the primary amino acid sequence. This belief that genes determine the sequence of amino acids has been strengthened by the demonstration of a large number of mutant hemoglobins, each differing from the normal, or wild-type, by only a single amino acid substitution[32] and each apparently the result of a change in only a single Mendelian gene. Demonstration of amino acid changes in mutant bacterial phosphatase[14] and tryptophan synthetase proteins[63] has also strengthened the argument since the possibility of performing breeding tests in bacteria permits a correlation between the position of the genetic change with the position of the amino acid change in the protein.

The gene is now thought of as a complex structure consisting of two linear series of nucleotides paired according to the restrictions of the Watson-Crick structure. Although it is possible for geneticists to argue about the definition, it is convenient to define a gene here as that segment of the nucleic acid which carries the information for the sequence of amino acids in a single polypeptide chain. The gene is considered a linear sequence of necleotides which determines a linear sequence of amino acids in a polypeptide, both sequences running in the same direction; that is, one assumes that nucleotides and amino acids are colinear. This assumption of colinearity has only recently been (partially) demonstrated[22, 23]; changes in the amino acids of the A protein of tryptophan synthetase are correlated with the position in the genetic map of the controlling mutant genes. (Even this requires the identification of the sequence of the genetic map with a sequence of nucleotides, an identification still only partly made.[31])

If the gene is considered to control the sequence of amino acids in a protein, then it is evident that there must be sub-units or sites within the gene, each responsible for the insertion of a particular amino acid at the proper position in the peptide (fig. 1). The inquiry into the nature and size of each of these sites constitute what is generally called the "coding problem."[64] It is known that there are only four different nucleotide pairs and that these must be arranged so that they determine some 20 amino acids. The Morse code uses two symbols to code 26 letters, nine digits, zero, period, comma and other punctuation marks by using permutations and combinations. It is considered that the genetic code also uses similar devices. The codes that have been considered as representing nature use a constant number of symbols per code unit. It is usually supposed that the code is triplet in nature, that is, that there are three nucleotide pairs coding each amino acid unit. Since there are four different nucleotides available for each position in the triplet this would give $4^3 = 64$ different code symbols possible (a code of two elements would have only $4^2 = 16$ symbols which is insufficient). If all the symbols make sense then it is evident that the code must be degenerate; that is, that more than one triplet may code for the same amino acid. Actually, there is evidence for some degeneracy in the code and there is genetic evidence that the coding unit is indeed one of three (or of an integral multiple of three) nucleotide pairs.[9] The question may also be asked whether the code is overlapping or not. If the nucleotide pairs are represented as A, B, C and D then does the sequence ABCCDD code for the two amino acids represented by ABC and CDD or the four represented by ABC, BCC, CCD and CDD? Since what appear to be single base pair changes result in substitutions of only single amino acids in proteins rather than in three changes it is generally assumed that the code is non-overlapping. The genetic material may then be said (within the limits of present knowledge) to constitute a non-overlapping, degenerate triplet code. The question of spacers which have no code meaning between genes or of so-called nonsense sequences can not really be considered as settled.[9]

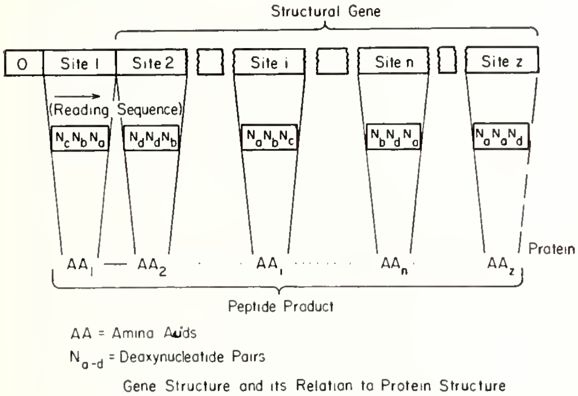

Fig. 1. Structure of the gene.

The genetic determinants, or most of them, are located in the nucleus while protein, or most of it, is synthesized in the cytoplasm.[46] Since genes (located in the nucleus) control the sequence of amino acids in peptides (synthesized in the cytoplasm) there must be a set of directions sent from nucleus to the protein forming machinery. The question, posed in this way is not new but it is only within the last few years that real information about the nature of the directions has become available. This information comes from two major sources; first, from *in vitro* investigations on the mechanism(s) of protein synthesis and, secondly, from the study of enzymatic induction in microorganisms.

Although the synthesis of protein polypeptides does not occur via free peptide intermediates[*] in the same sense that the phosphorylated trioses are intermediates in carbohydrate metabolism, it is possible to demonstrate a number of stages in the synthesis of protein (fig. 2). These stages were recognized only after the recognition that all the amino acids required for protein synthesis had to be simultaneously present and that each protein molecule was formed from compounds at the single amino acid level without the intervention of peptide intermediates.[45, 25]

In the first stage, the amino acids are "activated" by exchange reaction with adenosine triphosphate to give an adenyl amino acid with activated carboxyl group and free pyrophosphate. Activation of all the amino acids by specific enzymes has been demonstrated.[46] The second step involves the transfer of the amino acid to a ribonucleic acid (RNA) of relatively low molecular weight (70 to 90 nucleotides giv-

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[*] The meaning of the variety of peptides found in the body fluids of Drosophila is not known.[19]

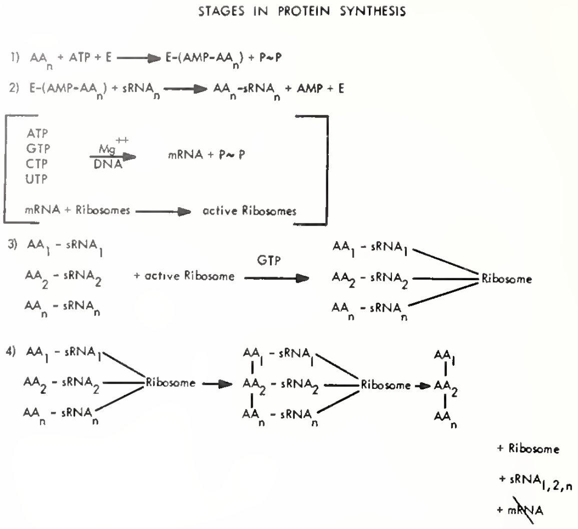

STAGES IN PROTEIN SYNTHESIS
1) AAn + ATP + E → E-(AMP-AAn) + P~P
2) E-(AMP-AAn) + sRNAn → AAn-sRNAn + AMP + E
ATP GTP CTP UTP
Mg++
DNA
mRNA + P~P
mRNA + Ribosomes → active Ribosomes
3) AA1 - sRNA1 AA2 - sRNA2 AAn - sRNAn
+ active Ribosome
GTP
Ribosome
4)
Ribosome
+ Ribosome
+ sRNA1,2,n
+ mRNA

Fig. 2. Stages in the synthesis of protein. Recent work suggests that the sRNA-AA complexes are added *one at a time* to the growing peptide chain and that a particular sRNA dissociates off before addition of the succeeding sRNA-AA complex.

ing a molecular weight of about 25,000). This material has been called soluble, transfer or shuttle RNA (s-RNA) and it plays a key role in the placing of the amino acids on the template for protein synthesis. The amino acid-soluble RNA complex, called in laboratory slang "charged s-RNA," is then transferred to the ribosomes on which, in which, or in association with which, protein synthesis takes place. There is some evidence for the occurrence of a "releasing enzyme" which regulates the removal of the newly formed protein from the ribosome.[58]

The ribosomal-amino acid complex constitutes the "black box" stage of protein biosynthesis. The requirement that genes control the amino acid sequence of the protein polypeptides coupled with the absence of free intermediates implies that protein synthesis occurs on some sort of template. Apparently this template must be associated with the ribosomes. One may then ask: "Do the ribosomes constitute a heterogeneous collection of particles—each ribosome being suitable for the biosynthesis of one type of protein—or are the ribosomes rather permissive manufacturing plants ready to make any protein depending on the particular instructions received from the nuclear genes?" One may also ask: "How do the various amino acids find their way to a particular position on the template? What is the nature of the molecular forces directing them to a particular position?"

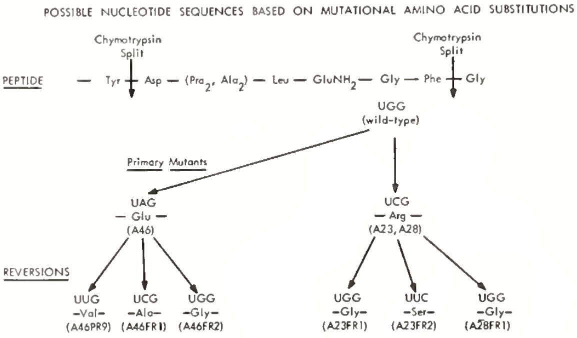
For a number of years biologists have supposed that ribonucleic acid served as the intermediary between the DNA genetic material and the protein synthesizing mechanism. It could be demonstrated that ribonucleic acid was formed (at least in part) in the nucleus and that it migrated to the cytoplasm.[65] Cytologists had long noted the close association of ribonucleic acid with the protein forming sites in the cell. To be sure, these observations were made before it was realized just how heterogeneous was the class of compounds called RNA. It had also been noted that concurrent RNA formation was necessary for the synthesis of a class of induced enzymes in bacteria[48] and finally it was shown that protein synthesis began shortly after the introduction of a "structural" gene into an organism.[44] Experiments of this type can be done with ease using *Escherichia coli* in which the information required to make the enzyme beta galactosidase can be transferred with high efficiency along with the mating type factor. The quick response of *E. coli* to the introduction of genetic information prompted a search for an intermediate which turned over rapidly; the association of nucleic acid synthesis with protein synthesis suggested that this intermediate should be nucleic acid.

Other evidence suggested a nucleic acid intermediate. When *E. coli* is infected with the virulent bacteriophage T2 there is an immediate cessation of bacterial DNA and protein synthesis and of net RNA synthesis. There is, however, an immediate and rapid turnover in the RNA. The base composition of the newly synthesized RNA demonstrated by such experiments is characteristic not of the bacterial RNA but rather of the bacteriophage DNA (with uracil substituted for the thymine in the DNA).[54] In fact it is possible to extract this RNA and show that it forms a highly specific pairing structure with the phage DNA indicating a high degree of complementarity between the two structures.[20] The finding of a rapidly turning over ribonucleic acid structure with base composition approximating bacterial DNA has also been made for bacteria synthesizing beta galactosidase and this RNA has been called messenger RNA.[30] This messenger RNA (mRNA) will associate with the ribosomes. Following phage infection of bacteria no new ribosomes are formed; the phage proteins are apparently produced on bacterial ribosomes which have taken up, or associated with, bacteriophage messenger RNA.[5] For this case then, the ribosomes must be considered as born devoid of any intrinsic specificity for protein synthesis and able to take up instructions sent from the genetic material.

Accompanying these findings has been the discovery of enzyme systems which will produce RNA of base composition and sequence complementary to the DNA which is required as part of the reaction mixture.[60, 28] These enzymes require the four ribonucleotide triphosphates plus DNA in order to form a ribonucleic acid. The ribonucleic acid formed in the enzymatic reaction has a total base composition complementary to the base composition of whatever DNA is used in the reaction mixture. That is, the molar ratios of uracil, cytosine, adenine and guanine in the RNA equal the ratios of adenine, guanine, thymine and cytosine in the DNA primer. The RNA forms hybrids with the DNA used as a template when the two are annealed together.[16] *In vitro* it is evident that both of the DNA strands in the Watson-Crick structure serve as models for RNA synthesis since the RNA is formed as a single stranded molecule but will form a hybrid with itself indicating that complementary chains are formed.[15] Whether both DNA strands are active *in vivo* is a matter of some interest at the present time.[6]

The supposition is that this complementary RNA synthesized *in vitro* may be equated with the messenger RNA demanded by the biological experiments. And in fact it has been possible to show that such RNA when added to a system of ribosomes and cofactors *in vitro* does stimulate the incorporation of amino acids into protein.[61] The really startling finding was the observation that a synthetic RNA containing only one base, polyuridylic acid added to a complete system would promote the incorporation of one amino acid, phenylalanine into an insoluble product which turned out to be polyphenylalanine.[39] Polyuridylic acid can be made by polynucleotide phosphorylase,[18] and this same enzyme can be used to prepare mixed ribonucleotides. The composition of the ribonucleic acid product formed by this enzyme is determined by the composition of the reaction mixture. It was found that all 20 amino acids could be incorporated in varying amounts by the different polymers prepared and by a statistical argument and analysis of the relative proportions of amino acids incorporated it was possible to deduce the triplets of bases corresponding to each amino acid—always assuming that the code was really a triplet code.[47, 35]

A start has even been made in the elucidation of the order in which the coding nucleotides occur within each triplet.[24] Such orders can, in principle, be deduced biochemically by the use of particular oligonucleotides of known structure as primers of the RNA polymerase.[56] The orders can also be deduced genetically on the basis of the amino acid substitutions found in revertants of certain very closely linked mutants of the tryptophan synthetase A protein of *Escherichia coli* and the nonordered triplets determined for these amino acids in the *in vitro* system (fig. 3).



(Sequence for Glutamic acid assigned arbitarily)

Fig. 3. Ordering of coding nucleotide triplets. A, ademylic acid; U, uridylic acid; G, guanylic acid; C, cytidylic acid.

It is now possible to give a tentative picture of protein synthesis which indicates the source of the specificity and also uses only a single mechanism—specific pairing via hydrogen bonds—to ensure the construction of the correct protein. RNA is synthesized on a DNA template and migrates to the cytoplasm where it is picked up by, and associates with, ribosomes. How this occurs is not known. The messenger RNA now serves as a template along its length for charged soluble or transfer RNA. The present hypothesis requires that s-RNA have two recognition sites: one by which it recognizes and combines with particular amino acids (it is known this is so because of the different base composition of isolated s-RNA's indicating that s-RNA's corresponding to different amino acids are really chemically different), and a second by which it recognizes and combines with (triplet) sites on the messenger attached to the ribosomes. Some evidence for this idea has been obtained using an s-RNA fraction specific for cysteine.[8] This RNA is charged with cysteine and then the cysteine-s-RNA is chemically converted to alanine-s-RNA by the action of Raney nickel. The alanine-s-RNA so produced will carry alanine into protein on a synthetic polyribonucleotide template which is specific for cysteine. s-RNA specific for alanine will not conduct alanine into protein using this template. The experiments therefore indicate that the specificity for incorporation of amino acid into protein is contained somewhere in the s-RNA structure. It is assumed, but not known, that s-RNA associates with the messenger RNA template by means of hydrogen bond interactions similar to those which hold the two strands of the DNA molecule together in a Watson-Crick double helix. Finally, the fact that two different s-RNA's can be separated, both of which combine with leucine, is taken as evidence for the degeneracy of the genetic code.[59] How these multifunctional s-RNA molecules are synthesized is completely unknown.

Goodman and Rich[66] have shown that s-RNA forms a specific complex with DNA indicating that these molecules are probably formed directly on a DNA template.

As originally proposed the messenger RNA was assumed to be inherently unstable and in fact, it was first supposed that there might be some stoichiometric relationship between the number of protein molecules synthesized and the number of messenger RNA molecules degraded. This idea of messenger instability certainly fitted the many observations that showed concomitant RNA and protein synthesis.[48] However it is now evident that there is no obvious quantitative relationship between RNA breakdown and protein synthesis. Furthermore it is increasingly apparent that in some systems the messenger is not as unstable as first considered necessary. Reticulocytes continue to synthesize hemoglobin even though they are devoid of nuclear material,[55] and acetabularia synthesizes protein long after the removal of the nucleus.[3] Protein synthesis continues in mammalian cells in the presence of actinomycin D,[43] an antibiotic which completely inhibits the synthesis of RNA by inhibiting the RNA polymerase. However, there is evidence that the basic information for protein synthesis in mammalian systems is found in both microsomes and supernatant fractions indicating the presence of a message carrying substance.[33]

In all fairness it should be pointed out that the experiments designed to show the role of messenger RNA in biological processes also show that the fraction identified by the hypothesis designated as messenger acts like a precursor for ribosomal RNA.[36] The ribosomes constitute the major portion of the cellular RNA and it is still something of a mystery where their material comes from and just how they reproduce or are reproduced. There is in fact still no real evidence for the functioning of the m-RNA fractions.

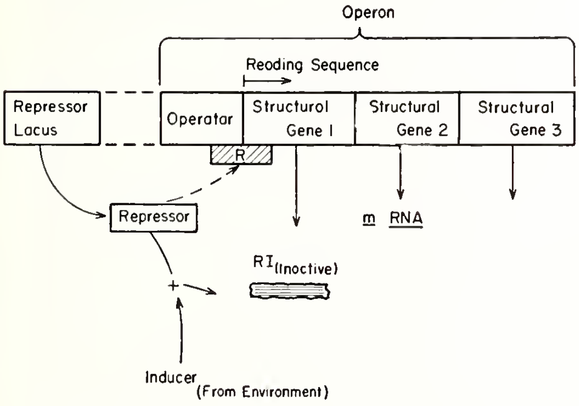
THE REGULATION OF GENE ACTIVITY

It has long been supposed that there must be at least two different types of genes; one which serves as a source of structural information while the second acts to regulate the time and rate of gene action. Such a hypothesis seems the simplest way to account for the coordinated action of genes at different times in development. Actually there do seem to be certain mechanisms of control built into the structure of enzyme molecules. In feed back control by end product inhibition[52] the end product of a series of metabolic reactions inhibits the action of (generally) the first enzyme in the series following a metabolic branch point thereby controlling the rate of its own formation. Threonine deaminase, for example, is inhibited by isoleucine[7] and the two coexisting aspartokinases are inhibited by threonine or lysine respectively.[49] Now threonine and isoleucine are sterically two dissimilar substances and it turns out that threonine deaminase has separate sites for combination with these two amino acids. It is even possible to remove the isoleucine sensitivity by treatment of the enzyme with an inhibitor (pCMB) which combines with the isoleucine site but does not affect the catalytic properties of the enzyme. The advantage of having such control mechanisms built into a molecule has led to the selection of such "altered" protein molecules in the course of evolution.

One of the developments of modern protein chemistry is the demonstration that many enzymes are constructed of subunits; that these subunits may be dissociated and that the enzyme is active only when the subunits have polymerized.[13] A series of subunits, defective at different sites may be paired to make polymers which display real, if lowered, activity. This is the phenomenon of complementation. Since each of the subunits are controlled by genes—in fact by some definitions the same gene—it is possible to have two genes with complementary mutations at different sites; that is which give an active product when the two are combined.[62]

In only one or two cases has it really been shown that complementation occurs *in vitro* but the argument that the phenomenon represents a combination of protein subunits seems inescapable. Once again one is forced to wonder what selective advantage has resulted in the construction of proteins in subunits or what function this construction by subunits might have. Dissociation and reaggregation of mammalian glutamic dehydrogenase is controlled by steroid hormones and by the concentration of one of its substrates[51] and it is possible that this too serves as a mechanism of cellular regulation.

No genic intervention or action at the genic level is required for regulatory mechanisms so far described. However, there is direct evidence for bacterial genes which control the rate of operation of structural genes. The enzyme beta galactosidase in *E. coli* acts to split the disaccharide lactose into glucose and galactose thereby making lactose available as an energy source. Ordinarily the levels of enzyme in the absence of lactose (or some similar substance, called generally an inducer) are low. Addition of lactose or other inducers results in a rise in absolute and relative amount of beta galactosidase in the induced organisms.[30] This ability of the organism to respond to inducer is itself under genetic control. So called constitutive mutants of *E. coli* have been isolated which make maximum quantities of enzyme even in the absence of inducer. These constitutive mutants have apparently lost the ability to make some repressor substance.[41] Ordinarily, in the absence of inducer the repressor combines with the structural gene thereby preventing its action. Addition of inducer results in removal of the repressor substance and consequent formation of the gene product (fig. 4). In fact there are two different types of constitutive mutants. The first has been described. In the second, a mutation in a region adjacent to the structural gene seems to prevent combination between structural gene and the repressor substance. This closely linked gene has been called the operator and is considered to control the function of the structural gene directly.[30] Although educated guesses have been made that the repressor substance is an RNA,[40] there is really no definite demonstration of the chemical nature of this postulated substance.



Possible Model for Operator Control of Gene Action

Fig. 4. The operon.

Microorganisms will regularly reduce the production of enzymes which catalyze the synthesis of metabolic intermediates such as the amino acids if these substances are present in the medium in which the organisms are growing. This diminution in enzyme production in response to environmental influence is called enzyme repression and the phenomenon is similar to that of induction although of course in a reverse sense.[53] It has been possible to isolate mutants which are resistant to repressive effects, that is mutants which continue to make maximum amounts of enzyme even in the presence of repressor substance. Such mutants are sometimes isolated as resistant to particular amino acid analogues and the source of the resistance is often a hyper production of the affected growth substance.[34] As in induction it is supposed that some substance is made by the repressor locus which in combination with an environmental agent prevents specific genes from acting.

The observations on repression give meaning to the linkage observed in some metabolic series in bacteria. Those genes controlling the sequence of reactions leading to the synthesis of histidine are linked in Salmonella[21] and with the exception of the first reaction after the branch point separating this series from the others they appear to be linked in the order of their occurrence. Such series are found for the synthesis of cysteine and of tryptophan and indeed of a number, but not all, metabolic sequences.[10] Some of these systems display what is called coordinate repression, that is, they are all repressed together and at the same rate.[1] The ability of strains to be repressed is under genetic control; not all strains display the repression phenomenon. Transfer of genes from *E. coli* K12 where repression does occur to *E. coli* strain B leads to recombinants in which the genes introduced act, but without repressive control.[17] It seems reasonable that a controlling element, similar to the operator in induction, acts in repression also. Since the combination of operator locus plus the structural genes under its control acts as a unit, the complex is called an operon; that is, all the genes coordinately repressed belong to the same operon. A number of experimental approaches document the existence of this operon unit.[30] The assumption is that the transcription or reading of the genetic material of an operon starts at the operator locus; if this locus fails to function or fails to permit the start of the transcription, none of the genes in the operon will appear to be functional (fig. 4).

To my knowledge there is no satisfactory evidence for the existence of operators and for a linked operon unit in higher organisms, although there are cases in which the concept appears useful.[37] What geneticists are trying to get at, of course, is a mechanism which accounts for the timed sequence of the action of different genes required for normal development. One need not go to so called higher organisms to see the necessity of an ordered control. In the development of a T4 bacteriophage inside the host bacterium there is an orderly sequence of particular reactions; first the development of enzymes for the synthesis of a peculiar nucleotide reactant to make the phage DNA, next the phage DNA itself, then the proteins that go to make up the phage head, the assembly of the phage and the development of lysozyme to cause dissolution of the bacterium. Since the information for all of these steps enters at the time of infection, the last of these enzymes must be repressed until development is well along. It appears that the phage linkage group is arranged almost in the order of the sequence of developmental reactions and it may be that the genetics of these viruses may provide some information as to developmental genetics in higher organisms.[11]

It is possible that the main outlines of the organism as a genetic system are indeed to be deduced from the facts and hypotheses now known. One of the peculiar findings of genetics (now of considerable importance in medical genetics) is the fact that in diploids, organisms with extra chromosomes are grossly abnormal while organisms with only one representative of even parts of chromosomes are unlikely to survive.[50] These phenomena occur even though all the genetic information may be present in at least one copy. Obviously the chromosomes act, in part anyway, independently of one another and their action, by controlling the amounts of catalytic protein enzymes, controls the rate of the various reactions and their balance in the organism. In reality little is known about the coordinated biochemical action of genes in chromosomes. The current debates about the inactivation of chromosomes or portions of chromosomes attest the truth of this statement.[4] It may be that in higher organisms, histones act as controlling elements[27] and the reversible disaggregation of proteins controlled by hormones substitutes in part for the repressive mechanisms of microorganisms. But these would be differences in detail. Some years ago it was proposed as part of a not too intricate genetic argument that genes could be divided into two classes; one was dispensable in that the genetic lesion could be overcome by the products of a normal nucleus.[2] In the second indispensable types, the phenotypes resulting from mutation were not amenable to physiological repair. Until there is more information about the role of genes in development, work will always have to be with the suspicion that there is a large class of genes which control form and development by essentially different means from those described. Personally, however, I doubt it—it seems to me that the systems worked out for the transcription of the DNA code and its transmission to the cytoplasm will turn out to hold the key to the transcription of the message that controls the development of multicellular organisms.

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Preface to Basic Genetics

Symposium on Genetics

Although the science of genetics is demonstrably a product of the 20th century, its roots go back to the ancient Greeks and beyond. Its basic principles however, which form the foundation for the material to be considered in this symposium, have been developed within the current century. Established by Mendel, Bateson, Morgan and other pioneer leaders, these principles explain the inheritance mechanism in plants, animals and man.

Genetics emerged as a science from a synthesis of three areas, statistics, hybridization and cytology, that had originated quite separately. Statistics developed in connection with games of chance, and the covering of annuity and insurance risks in the last century. Hybridization experiments with animals had been carried out since Biblical times. Those with plants have been utilized by such investigators as Kölreuter in the 18th century and by others who followed him. The two areas, statistics and hybridization, were brought together by Mendel in 1865, but his work was not understood until 1900. Cytology had its golden age under the leadership of Strasburger, Flemming and others from 1875 to 1900, while Mendel's work remained unappreciated. Boveri, Sutton and others coordinated cytology with the other two scientific areas to make the tripartite union at the turn of the century.

Genetics thus is young and vigorous. Its entire development as a science has occurred since 1900; all within the memory of some people now living or recently deceased. My professor, Richard Goldschmidt, for example, who died in 1958, had a remarkable memory that encompassed virtually the entire history of genetics as a science. He spoke in familiar and intimate terms of the founders of the science. Several of the pioneers that preceded the discovery of Mendel's paper in 1900 were remembered by Goldschmidt. Personal notes and comments about early geneticists made his lectures and conversations with graduate students unusually interesting and informative.

On one occasion, as he completed an impressive lecture on Boveri, he paused and said, "When I was a student in Germany, a professor would speak of his students and those closely associated with him in his laboratory as his children. I am a child of Boveri, you are his grandchildren." I do not know whether it is legitimate for me to tell my students they are great-grandchildren of Boveri. Anyway, the incident will remind us that we are not far removed from the historical period of genetics.

The history of the emergence of genetics as a science is outlined. It is predicted that the conquest of the gene will lead to some understanding of malignancy, behavioral disorders, degenerative diseases, metabolic aberrations, endocrine dysfunction and possibly infectious processes.

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Another incident will also point up the recency that is characteristic of the development of genetics as a science. One of the three discoverers of Mendel's paper, Erick von Tschermak-Seysenegg, is still living. He had not been heard from for several years by geneticists in the Western World, and it was a surprise to many delegates at the Second International Conference of Human Genetics at Rome in the summer of 1961 to learn that he had been invited to attend. It was expected at first that he would be present, but instead he wrote a letter recounting his experience with the early history of genetics and expressing his regrets that his age and precarious health would prevent him from making the trip. He is more than 90 years of age and suffers from arthritis.

Genetics incorporates many facets. Several aspects of the broad subject will be considered in this symposium. As a preface to basic genetics and as an introduction to the discussions that follow, I shall review the history and current status of the area of genetics that deals with mankind.

Human Genetics and Eugenics

Two terms, human genetics and eugenics, have been used sometimes synonomously with reference to human inheritance. For the purpose of distinguishing their different objectives. I should like to define them separately. Human genetics is devoted to the study of inheritance and variation in mankind. Eugenics is the attempt to apply genetic principles in improving the human stock.

Human genetics, for the most part, is the study of ordinary Mendelian genetics as it occurs in man. If there ever were doubts as to whether the basic principles of genetics apply to man, they have been dispelled. The same basic principles are applicable to plants, animals and man. Technics suitable for studies of man, however, are usually quite different from those applicable to experimental animals. Since the basic principles are similar in all living things, however, much has been learned from experimental materials and has been found to apply equally well to man.

Eugenics is a breeding program designed for human betterment. Along with its scientific aspects, eugenics includes fields on the borderline or even outside of science, involving social behavior in one way or another. The word "eugenics" was coined in 1883 by Sir Francis Galton in his "Inquirics Into Human Faculty" to identify the discipline that deals with all influences that affect the inborn qualities of man and the efforts to develop these qualities to the utmost possible advantage. Galton approached eugenics objectively. He introduced mathematical tools into human studies, and he initiated biometry, in which the concepts of probability, variability, frequency, mean, standard deviation, binomial series and correlation were used as tools to interpret human data. The mathematical tools he devised have turned out to be his most valuable contribution in this area of his interests. Sampling methods, carried out with appropriate tests and measuring technics, were devised to accumulate objective information. Eugenics, under the leadership of Galton, became a quantitive science.

Although Galton made a noble attempt to establish eugenics on a firm scientific foundation, many of his specific contributions have now been discarded because they were based on unsound assumptions, or on concepts of heredity that became obsolete with the understanding of Mendelian inheritance. Galton, for example, did not distinguish clearly between genes and traits. Furthermore, he assumed that desirable and undesirable traits could be defined objectively. He also assumed that traits would always breed true and that infertility was a social consequence which could be largely, if not entirely, overcome through education and enlightened public opinion. The more fundamental causes of infertility were unknown, or at least unappreciated at that time. Paradoxically, in spite of his persistent and energetic encouragement of the especially gifted members of the population to produce at least their share of the children and thus to perpetuate their genes in future generations, he died childless.

In the early Mendelian period (1900-1930), man's confidence in himself as controller of his own destiny was aroused by scientific discoveries and by social and political conquests of new environments. Rapid translation of new knowledge into terms applicable to improvements of man's lot often took precedence over objective and skeptical evaluation of the facts. In some cases, applications were attempted too soon before the hypotheses had been adequately supported by factual observations and before general theories had been constructed. Eugenists often found themselves working at cross purposes with geneticists because clear scientific goals had not been established.

One reason for the conflict was that eugenists then, as in more recent history, were partly social scientists. Social scientists, like some physicians and teachers, tend to become impatient with geneticists who cannot come up with all the answers on short notice. Interested primarily in traits of immediate social importance, they want to know, for example, what makes people clever or stupid, handsome or ugly, tall or short, healthy or unhealthy, well adjusted or social misfits. Traits of this kind do not correspond with hereditary units (macromolecules or genes). The human geneticist wants to understand the basic mechanism before deciding on the method to obtain the desired goals of human betterment. Some eugenists of the past have not been sincerely and wholeheartedly committed to the scientific principles of genetics. One critic has commented, "They believe in heredity only until their own children start making fools of themselves."

At the time of the initial conflict between human genetics and eugenics, in the early part of this century, the gross aspects of transmission genetics were being elucidated. Cases illustrating transmission of traits by single genes were being discovered, and suggestions regarding the mechanism of evolution and the means by which single genes control metabolism and development were being formulated. At that time, unfortunately, most applications involving human heredity were not oriented in any clear way toward basic units of inheritance. It seemed more important for eugenists to work with the complex inheritance of insanity, alcoholism, suicidal tendencies and other then vaguely defined human traits with important social implications than to study basic principles. Thus, the manner in which eugenics developed, in the words of L. C. Dunn, "cast a long shadow over the growth of sound knowledge of human genetics."

Only a few far-sighted investigators, such as Sir Archibald Garrod who worked on alcaptonuria and three other inherited metabolic defects, caught the vision of basic human genetics. Garrod reported on his significant work in 1901, and in 1908 he gave a series of lectures before the Royal College of Physicians under the title, "Inborn Errors of Metabolism." His work was not appreciated until many years later. An extension of this significant work is now occupying the attention of many biochemical and physiological geneticists.

As time went on, Galton's noble ideals, formulated in the pre-Mendelian era, were eclipsed by more immediate and less worthy social goals and even by emotional partisan movements. The eugenic laws of 1933 in Nazi Germany reflected the extreme in the perversion of scientific eugenics. In this movement, scientific objectivity was completely replaced by prejudice and expediency. People were killed or sterilized because they were not considered to be good Germans, with no distinction being made between social and cultural characteristics and genetic traits. Eugenics fell into disrepute and the word "eugenics" soon disappeared from the names of institutions, books and periodicals, as well as from course titles in university catalogues, especially in England and on the Continent. The *Annals of Eugenics,* for example, became the *Annals of Human Genetics.* In the United States, the reaction against eugenics was not as violent as in Europe. The American Eugenics Society retained its old name and weathered the storm.

Obviously, eugenics and human genetics have much in common. Stated goals, however, of those devoted to eugenics have differed from the beginning from the goals of those concerned with basic genetics. Unfortunately, the goal of applying information has sometimes been realized before the goal of establishing a firm scientific foundation. Eugenics got off to a head start but suffered a serious relapse. To some extent when eugenics fell into disrepute, it carried along other aspects of scientific investigations of human inheritance.

Human genetics began to regain its proper place in the scientific world in the early 1930's, parallel in time with the movements that brought the downfall of over-enthusiastic eugenists. A new generation of scientists trained in basic genetics began gathering objective information concerning man's inheritance. Results of investigations were presented for their own sake without bias or pressure for immediate application. L. S. Penrose, present director of the Galton Laboratory in London, published a paper entitled, "On the Interaction of Heredity and Environment in the Study of Human Genetics" in 1932, and L. Hogben published a book, "Nature and Nurture," in 1933. These publications set a new precedent for critical scientific work in human genetics. From this point on, momentum gathered for sound human genetics. In 1948, the American Society for Human Genetics was organized, and its journal, *The American Journal of Human Genetics* came into being. Curt Stern gathered available material on the subject and published an English language textbook, "Human Genetics," in 1949 (2nd edition, 1960).

MODERN APPROACH

Interest and activity in human genetics have reached a new peak. Periodical literature of the last decade and reports of increasingly frequent conferences and symposia devoted to human genetic problems provide convincing evidence of current activity. In 1956, the First International Conference of Human Genetics was held at Copenhagen. The second conference (to which von Tschermak-Seysenegg was invited) was held at Rome in 1961. Some 500 delegates from 33 different countries participated in the Rome conference.

The enthusiasm reflected by symposia and conferences in the last decade has been further enhanced by a number of excellent books on human genetics that have appeared, several within the last two or three years (see references).

Although the human geneticist is not prepared with answers, either simple or complex, for all the far-reaching questions that other people ask, he can give some help to the physician, the parent, the social worker and the teacher. He can remind the physician that just because a disease is hereditary it is not necessarily incurable. A feeling has been expressed among some physicians of the past that any hereditary human ailment is hopeless. The patient had his allotment of genes, they argued, so nothing could be done. (He should have chosen his parents more wisely.) A million and one half diabetic persons now living in the United States and apparently in good health, refute this argument. Other hereditary diseases are being successfully treated, and many more will eventually be controlled in one way or another.

The medical profession is more and more accepting the fact that every human trait, normal and abnormal, is basically genetic and yet simultaneously is environmental. An environment as well as a set of genes is responsible for the ultimate development of every individual and every particular trait. The treatment for a particular condition may include some combination of better diet, sunshine, fresh air, internal medicine, surgery or relaxation in Arizona. It is important to recognize that there are basic differences as well as similarities among individuals. The same "pink pills" may not do all things for all people.

A parent is in a more difficult position because he must reconcile both aspects of the problem. He transmits the hereditary material and provides in large measure the environment of his child. When his child brings home a poor report card and says, "What is the matter with me, Dad, heredity or environment?" the parent must think carefully before replying. It is true that after a child is born, no one can improve his gene complement, but the environment can be modified.

The social worker should recognize that basic information must precede applications in matters as fundamental as those associated with human reproduction. Knowledge of human genetics is now increasing rapidly, and I think soundly. The information must be translated into human society as it becomes available with appropriate reservations for the unknown. Scientists often have been accused of leaving their discoveries like foundlings on the doorstep of society to be taken in by step-parents who do not know how to bring them up. The geneticist should stay with his newly found information and assist in its interpretation and application.

The teacher must recognize that innate individual differences do exist but the traits of the individual are subject to change. The basic premise of education is that people are improvable. Character, various skills and even intelligence, as measured by I. Q. tests, can be improved by environmental agencies. It also must be remembered, however, that ordinary environmental factors may alter traits but not genes. Furthermore, the gene rather than the trait is the unit of inheritance. A tremendous breakthrough has occurred in the last few years, providing some understanding of the chemical nature of the gene and the mechanism of gene action. The full implications of recent discoveries with reference to human inheritance have yet to be clarified.

CURRENT PROBLEMS

I should like to cite in conclusion three current human problems that are related to genetics: thalassemia, consanguinity and overpopulation.

In Italy a wholesome program is being developed to control Cooley's anemia. This disease and its genetic background are well understood. A single gene in homozygous condition results in the fatal disease, Cooley's anemia or thalassemia major. The same gene in heterozygous condition causes a much less severe disease, thalassemia minor or microcythemia.

A word about the terminology applied to these diseases before going to the genetic and eugenic aspects. Cooley's anemia was named after Dr. T. B. Cooley of Detroit who described the disease clinically in 1925 and 1927. The older name, thalassemia, is general, referring to blood diseases of the people of Mediterranean stock (*thalass* Greek meaning "the sea") + (*aiua* Greek blood). There are many thalassemias but the term has become associated with Cooley's anemia. Microcythemia means small blood cells and has been used for thalassemia minor because the erythrocytes of people with this disease are smaller than those of people who do not have the disease.

There are some two million cases of microcythemia in Italy, and it occurs in other parts of the world as well. The disease is especially frequent in the Po Valley, Sicily, and in some other areas. In some sections of Italy, up to 27 per cent of the total population has the disease. When people with the mild form of microcythemia marry, their children may be homozygous for the gene and die with Cooley's anemia. Each year Cooley's anemia takes its toll of more than 1,000 children. There is no medical cure. Blood transfusions will keep victims alive for a time but this is only temporary. The only control is to prevent the marriage of microcythemics. Blood tests which identify carriers are now given in the elementary schools. Those who have the gene are advised not to marry and by all means not to marry persons who are related, or persons known to be like themselves, with microcythemia. Implications and possible repercussions from this type of premarital prophylaxis have been studied carefully. A high mutation rate for the gene is not likely, no selection has been found in favor of the heterozygote with microcythemia (as in the case of sickle-cell anemia where heterozygotes are more immune to malaria). No harmful effects can be foreseen with respect to genic balance. The main problems are human, emotional problems, and problems of educating the people. This kind of education, particularly when it must be given effectively to generally unenlightened people, requires great tact and understanding.

Another broad eugenic problem is marriage among close relatives, or consanguinity. It is not especially serious now in the world as a whole because modern transportation and communication have broken the isolates that were present a few generations ago. The only ill effect is apparently the uniting of deleterious genes in a homozygous condition. Calculations by Wright and observations by several investigators indicate that marriage among relatives is not especially serious in the human population if it is kept more distant than the first cousin level.

An opportunity is now available to study this problem on a large scale. The Catholic Church discourages consanguineous marriages but permits them when children are already born or conceived and then insists that complete records are made. All these records of consanguineous marriages have been assembled in a single room at the Vatican. Permission has been granted to use these records for genetic purposes. Under the supervision of trusted employees the pertinent information is being transcribed. Following analysis of the records, it is planned to follow up the family histories and tabulate any ill effects that might now or in the future be attributed to marriages among related people.

Overpopulation is a pressing problem. According to the population reference bureau, the world population is increasing at the rate of some 50,000,000 per year, 140,000 per day, 6,000 per hour. At the current rate there will be two times as many people as there are at present in one more generation. It is estimated that six billion people will be on the earth in 2000 A.D. Of all the people who have ever lived, about $\frac{1}{20}$ are alive today. Two thirds of the people constituting the present world population are undernourished and about one half are continually hungry.

The increase in population is not uniform throughout the world. In India it is or was until recently 3½ per cent per year. The population of Asia is rising, but the population of European peoples in Europe is falling. In France and Germany especially, people marry later in life and have fewer children than in most other countries, including the United States. Only because of migration from Asia has Europe had an overall increase in numbers in the last few years. In spite of such migration, however, the rise in population is considerably more rapid in Asia than in Europe.

Hope for the Future

An appropriate question at this point is, what do geneticists propose to do to help the situation? First, they must continue the research effort which has been unusually rewarding in the last few years. The conquest of the gene is one of the great accomplishments of our time and will, likely, lead to some understanding of malignancy, behavioral disorders, degenerative diseases, metabolic aberrations, endocrine dysfunction and even infectious processes. The mechanics of transmission genetics have been established, but the action of genes in development and differentiation, and the behavior of genes in populations must be further investigated.

Second, as information is gained through research, it must be carried over to society and properly applied. Sir Francis Galton, who established a plan for human betterment, had great faith in education as the way to achieve an enlightened public opinion through which appropriate practices for human betterment could be incorporated into society. Galton lacked the sound technical information which is now available but, in spite of this handicap, he made broad suggestions for avoiding genetic deterioration and overpopulation of mankind. One might do well to actively reaffirm his confidence in education as a means of accomplishing the desired ends. The trends of the times, however, indicate that the value of sound education and research must not only be recognized but must be simultaneously broadened and accelerated if the current problems are to be met before it is too late.

The firm foundations of basic genetics have been established. They are ready to support a superstructure of research whose results can often be used for human betterment.

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Genetic Exchange in Bacteria

Symposium on Genetics

While bacteria contain but single sets of genetic information, they exhibit enormous variability in nature. The genetic factors underlying this variability are mutation, selection and genetic exchange. A number of different and fascinating mechanisms of genetic exchange, although valuable for the study of problems in basic genetics, present difficulties in the identification of organisms and in the eradication of disease.

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ENTERIC BACTERIA generally are believed to be vegetatively-reproducing, rapidly-growing microorganisms, each with but a single chromosome. Bacteria are noted by geneticists for their mutational stability and constancy in pure culture. At the same time, members of the medical profession are impressed with the variability and adaptibility of bacteria. Basic research, mainly during the last two decades, has resolved this seeming enigma. How do bacteria, with a single, fixed genetic complement so rapidly "adapt themselves" to new environments containing complex swarms of antagonistic antibiotics and antibodies? What factors enter into the survival of members of a large, homogeneous population of sensitive organisms when they are suddenly faced with a factor, an antibiotic or a potent antibody, which would seem capable of allowing the host to totally eliminate them?

ADAPTATION

Built into the genetic and cellular architecture of bacteria are a number of different cellular regulatory mechanisms. At this symposium, Dr. Bernard Strauss has pointed out how some of these operate at the genetic level, others at the level of cellular metabolism in positions removed from the genetic material. The genetic material dictates the physiologic potentials of the bacterium; the environment plays an important part in the expression of these potentials.

MUTATION AND SELECTION

Populations of a billion bacteria are not uncommon in nature; in fact they may be considered as "the rule." Therefore, even if mutation to a new type takes place only extremely rarely, mutants are nevertheless present in these large populations. Mutants often are not as "fit" to grow and reproduce in a standard environment as are normal bacteria. However, a drastic change in the environment can rapidly kill off or inhibit the further multiplication of the normal bacteria. This bacteriostasis selectively may allow the multiplication of an otherwise rare, mutant type more suited to the new environment. Antibiotic-resistant mutants are a case in point.[1, 2]

GENETIC EXCHANGE

Mutation and selection serve as the raw material for evolution of new, fitter types of bacteria. But increasing evidence leads to the conclusion that these factors do not operate alone in the development of types most important in nature. Nor do mutation and outside "reinfections" account for all of the sudden changes which occur in the bacterial population, for example, during infection. The single, most important contribution is made through mechanisms allowing the exchange of genetic material from one bacterial strain (the male or donor) to another bacterial strain (the female or recipient).

TRANSFORMATION[3]

In 1928, F. Griffith noted that *simultaneous* injection into mice of heat-killed, virulent and living, avirulent pneumococci gave rise to fatal infections. Virulent organisms were isolated from the infections and shown to propagate the capsular type of the heat-killed organisms, production of capsular oligosaccharides being essential for virulence.[1] Research, starting with the important contributions of O. T. Avery, M. McCarty, and co-workers, in 1944, tells that the genetic transformation observed by Griffith was mediated by DNA released *in vivo* from the heat-killed organisms and taken up by the living, avirulent organisms.[12] DNA alone is essential and sufficient for transformation; DNA is "the" genetic material. Thus, the demonstration of bacterial transformation reactions has served as one of the milestones in the development of current genetic concepts, as pointed out at this symposium by Dr. Franklin W. Stahl.

Transformation reactions have been studied most intensively in and between *Diplococcus pneumoniae* and *Streptococcus* species, among various *Neisseria* species, among various *Hemophilus* species and in *Bacillus subtilis*. Transformation reactions are available which utilize human cell tissue culture lines as recipients for DNA extracted from other human cells. Quite analogous to transformations are infections of bacterial cells with DNA and RNA extracted from different bacterial viruses, tissue culture infections with animal virus RNA, and infection of plant cells with plant virus RNA.[4] These systems clearly demonstrate that genetic material is not solely DNA; some RNA's also possess genetic properties (i.e. they are accurately replicated and transmitted to progeny whose properties they dictate; they occasionally mutate to new stable, inheritable types).

Transformation reactions allow the greatest freedom for the student of chemical genetics. The genetic material, the nucleic acids, can be purified, treated, studied by chemical and physical chemical technics *in vitro;* their uptake, replication and functioning in recipient cells allows convenient assay of biological function. Many of the contributions to basic genetics of transformation reactions are reviewed by A. W. Ravin,[3] who also describes some details of the transformation process.

The initial experiments of Griffith, demonstrating transformation *in vivo,* lend credence to the hypothesis that transformations are an important source of bacterial variability and origin of new types in *nature*.[3] More recently, R. M. Herriott[4] has lucidly pointed out the possible importance of viral nuclei acids in infectious processes. He summarizes his theme: "Viral nucleic acids have been found to be infectious for tissues and animals, yet are nonantigenic and resistant to antibodies against whole virus. Other unique properties, such as their host range and their susceptibility to nuclease action, render them a wholly new dimension to be reckoned with in virology. These properties may explain a number of conditions which at present are considered anomalous. The release from infected tissues of even a small proportion of total virus as free nucleic acid could, in an otherwise immune individual, lead to a low level of infection which would, perhaps, explain permanent immunity. If the proportion of nucleic acid is higher, or if the nucleic acid is resistant to nucleases because of an inert envelope, such conditions as 'carrier' states—that is, viremias with or without antibodies—are possible."[4]

VIRUS INFECTION AND CONVERSION[5, 6, 7, 9]

Dr. Franklin Stahl already has mentioned at this symposium the events which occur after a bacterium is infected with a bacterial virus (bacteriophage or phage) particle. The DNA of the virus is injected into the bacterium. This process is schematically diagrammed in the top line of figure 1 (A, infection, step 1). The genetic material of the phage is indicated by the short, white bar; the genetic material (chromosome) of the host bacterium as a long white bar with a particular genetic region denoted in black.

The genomes of the virus multiply intracellularly (step 2a). After a definite time period of 15 minutes to one hour, characteristic of the virus, the cell bursts open. A few to thousands of mature, infective virus particles are released (step 3a). The released virus is free to reinfect other bacteria (Lytic Cycle).[1]

Other phages are "temperate." When they infect sensitive bacteria (step A-1), some of the virus-host complexes go through the lytic cycle (steps 2a and 3a) while other infected bacteria do not lyse (step 2b). Lysogenization occurs. In the lysogenic bacterium, the virus nucleic acid is free of its protein coat, is non-infective (except in a transformation system), and in many cases appears associated with a particular genetic location on the host chromosome. When the bacterial chromosome is replicated, the "prophage" also is replicated (step 3b). Such bacteria can be detected as carrying the prophage by a number of means. One indication is their sensitivity to "induction" (step 4b). When induced, for example, by treatment with ultraviolet light, the prophage becomes activated (step 4b), replicates and the cell lyses with the release of mature phage (step 5b).

A second manner in which lysogenic bacteria are differentiated from non-lysogenic bacteria is through their serologic properties. Many phage genomes are known to contain genes which elicit the production of particular somatic antigens. Thus, through lysogenization, the immunologic properties of the bacterium can be altered sud-

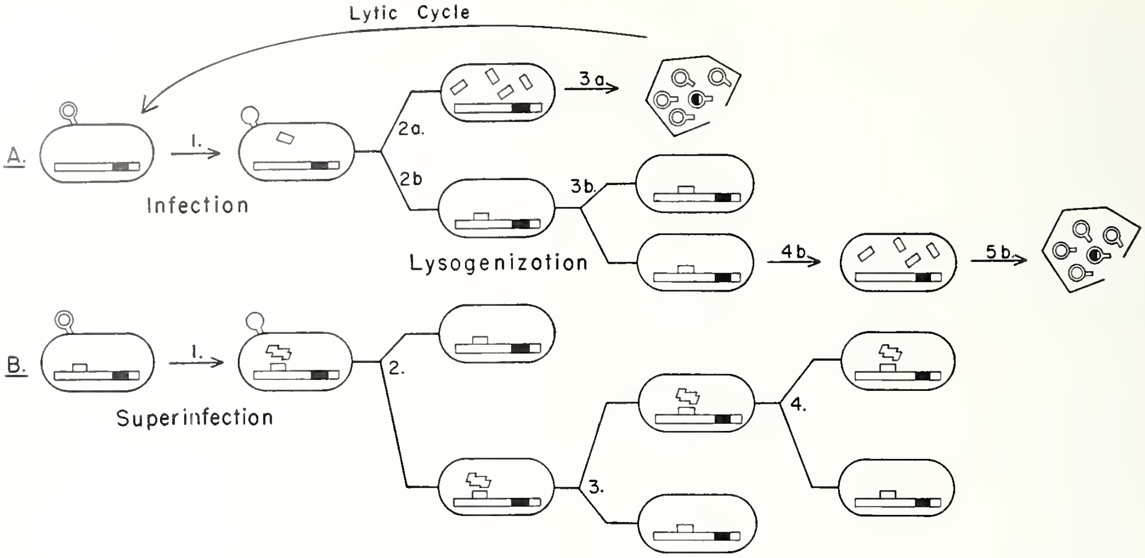

Fig. 1. Virus Infection and conversion.

denly, making it less responsive (or completely unreactive) with antibodies produced by the host to the major antigens previously present. A number of cases are known in which two different but closely-related "species" (i.e. two strains differing antigenically) of *Salmonella* have been detected in a single outbreak or isolated from a single patient.[7] Toxin production by *Corynebacterium diphtheriae*, at least in part, is controlled by phage genes.[6]

The association of prophage and chromosome is an unstable one; about one out of a thousand bacteria in a culture lose the prophage. In so doing, the antigen-eliciting gene of the phage also is lost. The progeny of such bacteria, then, return to their original antigenic type. It is logical to assume that these antigenic conversions, and returns to the original conditions, play important roles in infectious processes.

A third manner in which lysogenic bacteria are differentiated from sensitive ones is in their ability to withstand "superinfection" by related free virus particles (B, in figure 1). Lysogenic bacteria are "immune" to reinfection. When reinfected with virus, none of the bacteria goes through the lytic cycle. Superinfecting virus DNA is injected (zig-zag white rod in step B-1) and remains in the bacterium for a number of generations but does not replicate (steps B-2, 3 and 4). The superinfecting virus genome is passed unilinearly along a single-cell line during vegetative reproduction of the host bacteria. With some viruses this inheritance is not found; the superinfecting virus DNA is broken down after it penetrates the bacteria (not shown in figure). The property of immunity is localized in a segment of the prophage genome, that is, immunity to superinfection is elicited by phage, rather than bacterial, genes.[1, 9, 11]

TRANSDUCTION[1, 5, 7, 8, 9, 12]

In 1952, N. D. Zinder and J. Lederberg discovered that rare bacteriophage particles, released from lysogenic bacteria, carry fragments of the bacterial chromosome (dark particle after step A-5b in figure 1). The bacterial genes are injected into recipient bacteria, a process that Zinder and Lederberg termed transduction (C-1 in figure 2).

The bacterial genes injected into recipient bacteria undergo different fates in different cells (steps C-2a, b, c). One response is the unilinear transmission of the injected material during vegetative growth of the recipient bacteria (steps C-2a, 3a, 4a, 5a). At any given time during subsequent growth, only one of the daughter cells contains the genetic fragment. The injected bacterial genes do not replicate; they just sit there and function ("abortive transduction"). Thus, one of the progeny cells is diploid for (has two sets of) a small chromosome region. There are some indications that the input genetic material pairs with homologous genetic material on the recipient chromosome (lined off in C, in figure).

A second type of response which occurs following transduction is a recombinational process between genes on the recipient chromosome and genes on the infecting chromosome fragment

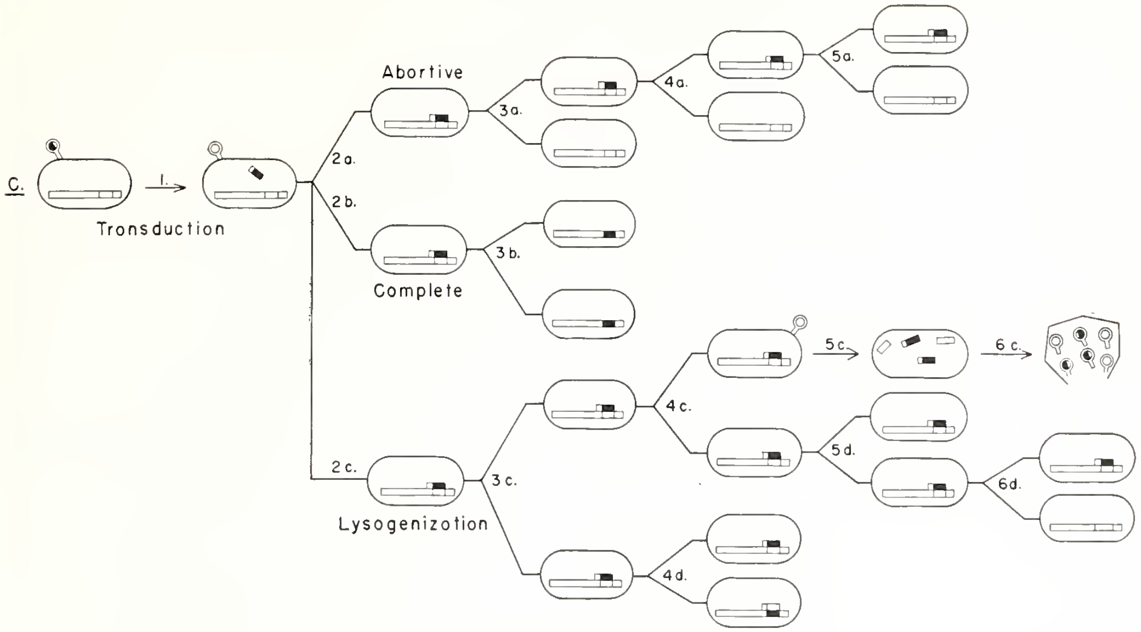

Fig. 2. Transduction.

(C-2b, in figure 2). A small portion of the genetic material, originally present in the host chromosome, is replaced permanently by input genetic material (C-3b, in figure 2), "complete transduction."

In a third type of response, the injected genetic material pairs with homologous genetic material in the chromosome (C-2c, in figure) and is replicated more or less in synchrony with the host chromosome (C-3c, 4c, 5d in figure). This is analogous to the propagation of prophage following lysogenization by normal phage. Occasionally, genetic exchange between chromosome and fragment leads to the production of a stable complete transduction (C-4d, in figure). Also occasionally, the genetic fragment is lost (C-6d, in figure). The cell line segregates off bacteria which are genetically indistinguishable from the bacterium originally infected with the transducing particle (C-1, in figure). Finally, the unstable partial-diploid culture may be induced, for example, by treatment with ultraviolet light (compare A-4b, in figure). No phage generally is released because, in the transducing particle, some critical phage genes have been replaced by bacterial genes. But if the critical phage genes are supplied through superinfection with normal virus (C-5c, in figure) both the chromosome fragment and the virus genomes multiply together. When the cell lyses, approximately half of the particles released carry phage genomes, and the other half carry essentially identical copies of the small chromosome fragment (C-6c, in figure). Millions of particles are obtained readily from a relatively homogeneous partial-diploid culture. Since the two kinds of particles can be separated from each other, a pure suspension of transducing particles (carrying a specific small segment of the bacterial chromosome) can be obtained.

There are two types of transducing viruses. One kind is able to "pick-up" only those bacterial genes which are located close to the place on the chromosome where the prophage sits. These "special" transducing particles are released only from induced lysogenic bacteria (A-4b, 5b and C-5c, 6c in figure 2) and not by infection of sensitive bacteria (A-2a, 3a in figure). The initial recombinational events taking place between virus chromosome and host chromosome occur when the virus is propagated in the prophage state. "General" transducing phages are able to pick up any small portion of the host chromosome and are released either after lytic infection or after induction (A, in figure 1). It seems quite possible that the two processes are basically the same and that the difference resides in the ability of the proteins of general transducing phages to encapsulate small sections of the chromosome which are already in the diploid condition. Transductional systems have been described for various Enteric bacteria, as well as in *Bacillus, Staphylococcus, Pseudomonas.*

Transduction has greatly facilitated analysis of bacterial genetic fine structure[5, 10, 12] and promises to extend knowledge of the functioning of genes and the molecular mechanisms involved in genetic recombination.

CONJUGATION AND F[5, 7, 11, 12]

Prophages are small accessory genetic elements which endow bacterial cells with the genetic potential to release virus. A particular phage may be present, or may be absent, from a bacterial strain. When present, it may replicate in synchrony with the bacterial chromosome in the prophage state, or it may be induced to proliferate rapidly at the expense of its host. In recent years it has become apparent that bacteria contain a range of such accessory genetic elements, collectively termed "episomes."

One such episome is called F. Bacteria containing F are not endowed with the capacity to release phage but, rather, F elicits an antigen conversion which allows the bacteria to stick together upon contact. This contact is followed by formation of a fusion bridge between cells, through which F is transferred from the male cell containing F to a female cell not containing F. Both exconjugants pass F along to their progeny. The episome F, then, can spread through a bacterial population through successive rounds of matings between F-containing and other cells.

F has a second property, from which it derives its name (F, for fertility). F has a propensity for attachment to the host chromosome at any of a large number of positions. When F is attached to the chromosome, chromosomal genes are transferred during conjugation. This is the sexual recombination, described by J. Lederberg in 1947.[12] The transfer again is unidirectional, going from the cell with F to the female cell. The single chromosome slowly and progressively passes into the recipient cell at a constant rate. The entire process of transfer takes about 100 minutes; since the chromosome is comprised of about 1×10^7 nucleotide pairs, the transfer proceeds at about 1×10^5 nucleotide pairs per minute. The end of the chromosome with F attached enters last.

Some of the mating pairs spontaneously break apart during chromosome transfer; therefore, genes may be mapped in a particular male cell by the relative frequencies with which they appear in the female bacteria. Or, the culture may be agitated so that all pairs break apart, then the male cells are killed by bacteriophage infection or with an antibiotic. In this case, the time of first entry and the kinetics of transfer may be followed, giving a second method for locating genes on the chromosome. The estimates of gene order and relative positions on the chromosome may be converted to physical units by use of male donor bacteria highly labelled in the DNA with radioactive phosphorus.[11]

Recent results by Baron and coworkers[13] demonstrate that genetic recombination between *Escherichia coli* and *Salmonella typhimurium* can occur within the intestine of the mouse. Some of the hybrid strains multiplied rapidly *in vivo* and were recovered in larger numbers than either of the parent strains throughout the course of the chronic infection.

CONJUGATION AND OTHER EPISOMES[1, 11, 12]

During growth of bacteria in which F is attached to the chromosome, the segment of the chromosome adjacent to F sometimes is separately duplicated. Depending upon the extent of the duplicated region, a few or many genes of the bacterial chromosome become associated with F. In matings with the progeny of these special bacteria, only the genes attached to F are transferred. F still enters the recipient last, as in the "normal" fertile strains. The combination of F and chromosomal genes may be viewed as similar to the combination of prophage and bacterial genes in the generation of transducting particles. However, the precise mechanisms which lead to such associations are unknown.

Most of these observations on conjugation have been noted through test tube manipulations in bacterial genetics laboratories. But there recently has been brought forward strong evidence that similar phenomena occur in nature and that they are of clinical significance. Furthermore, understanding of the genetic mechanisms in the F and conjugation systems appears paramount to comprehension of the appearance of unique types of bacteria in clinical material. For example, S. Falkow and L. S. Baron have demonstrated that a lactose-positive strain of *Salmonella typhosa,* isolated from the stools of a patient ill with gastroenteritis, carried the lactose genes in an episome (on a small extrachromosomal element), probably originally derived from a member of the *Escherichia* group.[14] Two groups of Japanese workers[15, 16] have shown that Enteric bacteria, resistant to as many as five different antibiotics, carry the genes engendering resistance in episomal form. These multiply-resistant bacteria transfer the resistance markers with high frequency, through conjugation, to other bacteria. Multiple resistance factors also are transduced together into new recipient bacteria. Resistance markers from different episomes, when together in the same cell, recombine and segregate to give many different types of resistant organisms, including novel types.

Two genetic phenomena occur when bacterial genes enter into episomal elements. In some cases there is a "gene-dosage" phenomenon; the bacterium containing one complete set of genes plus two sets of a few genes in an episome, produces just three times the normal activity for those genes present in duplicate.[11] In other cases, no such additivity of ultimate gene products is observed. The genetic and metabolic control over the rate of functioning of the genes in the element is altered. The alteration in genic activities gives rise to special types of organisms with strong selective advantage under particular growth conditions.[17, 18] Episomic elements thus play a key role in the origin of novel types as well as in their dissemination through genetic exchange.

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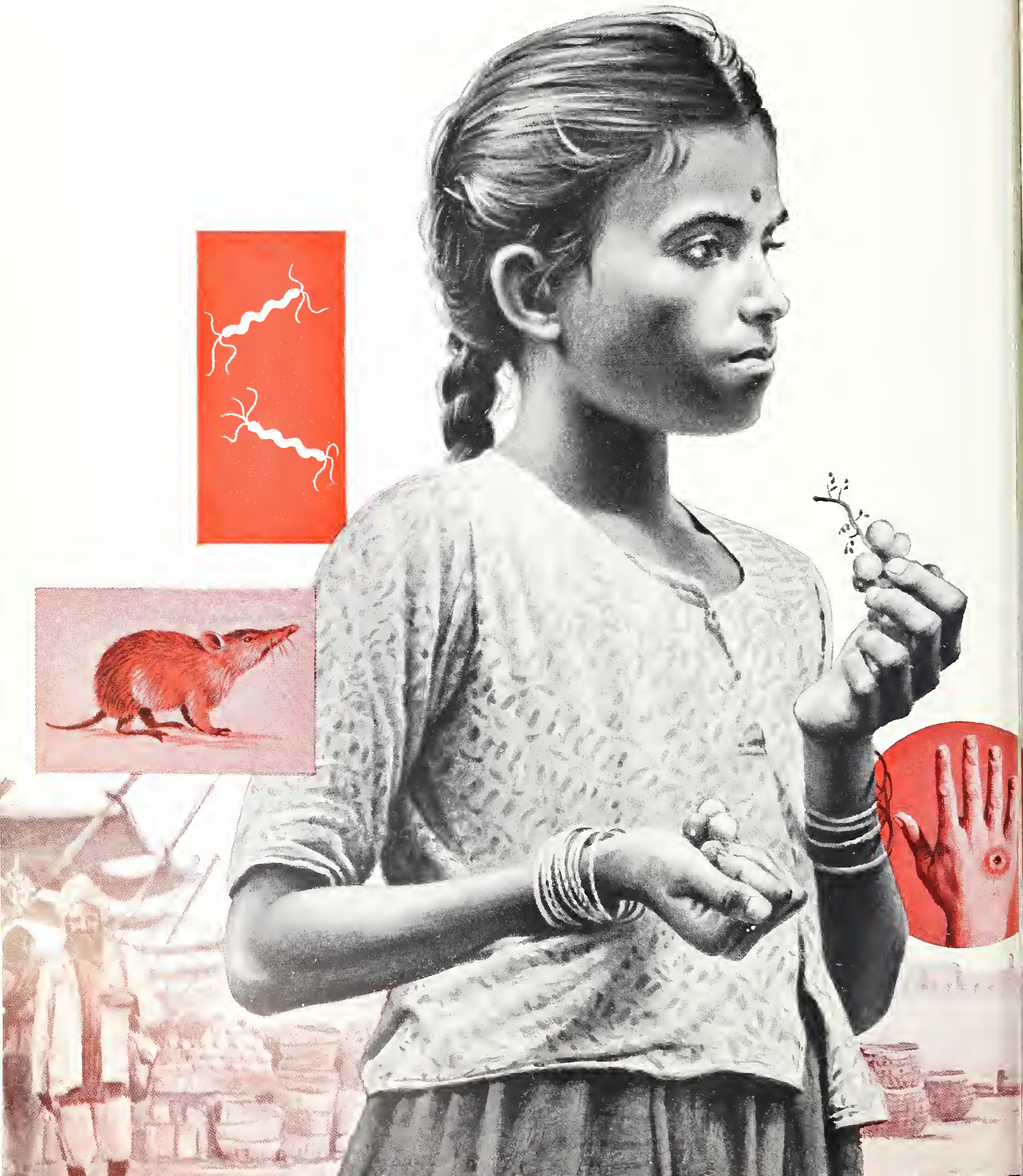
from sodoku in India



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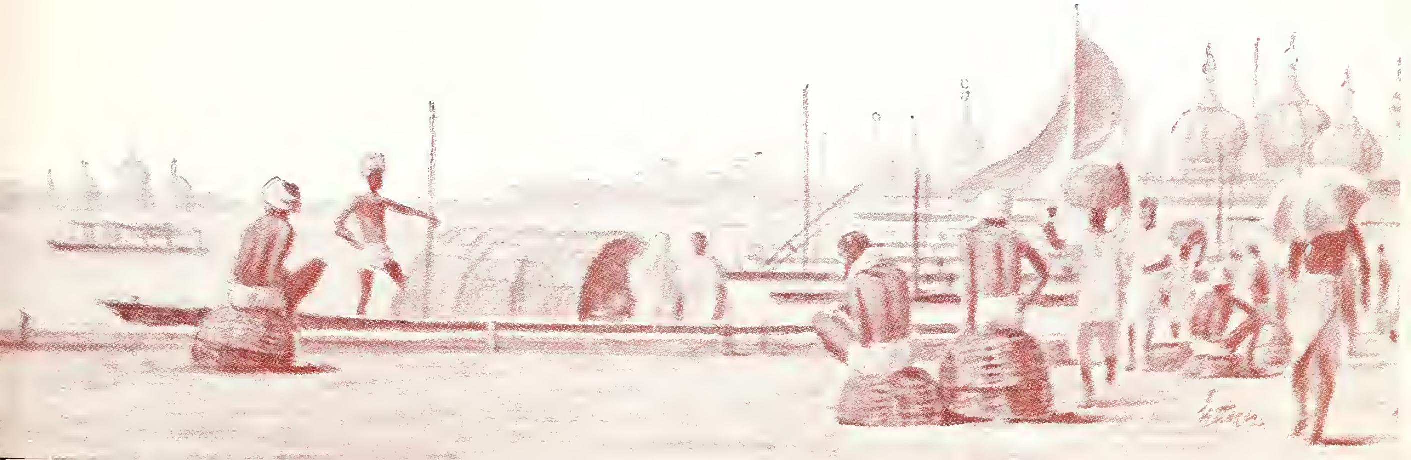


SOLOMON GARB, M.D., ***Columbia***

Thermonuclear Survival

When Time Is Short

This continues a series of articles on thermonuclear survival. These include material previously published in the *New York State Journal of Medicine*, and are published with permission of that journal.

Dr. Garb is secretary of Medical Education for national Defense at the University of Missouri. He is Associate Professor of Pharmacology, Department of Physiology and Pharmacology, at the University of Missouri School of Medicine.

Reprints of individual articles will not be available but reprints of the entire series will be made available if there is sufficient demand.

This article is designed to help those who could not or would not make adequate preparation in advance for possible thermonuclear attack.

No one can predict when a nuclear attack may come, or how much warning will be available. Perhaps an attack will come as a complete surprise. However, it might also follow a period of rising international tension so that some sort of warning, foreboding, or even premonition, may be available. If no warning whatever is available, this article will be of little use. However, changes in the international scene might portend an approaching attack. If so, the information presented here may be helpful to those who do not yet have shelter space when danger threatens.

Many types of shelters cannot be built or supplied in a short period of time. Commercially available prefabricated shelters usually must be ordered weeks or months in advance. Steel pipe is not ordinarily stockpiled, and delivery might be delayed up to six months after the placing of an order. Poured concrete shelters also require considerable time. Time is needed for excavation, for building forms and for the concrete to cure and develop strength. It is difficult to see how a poured concrete shelter could be finished in less than a month after an order is placed and accepted.

Therefore, when time is short, simpler, less effective methods will have to be used. In planning these measures, the following assumptions have been made:

1. In a period of grave danger, when many people try to build shelters at once, contractors, machinery and labor will be too scarce to be depended upon. However, it is assumed that common hand tools will be available.
2. Steel, concrete and sandbags will probably be in such short supply throughout the nation that most people will not be able to use them in building a shelter.
3. Depending upon the area, lumber may or may not be in short supply. In most areas, however, the lumber supply will be too small for most people to utilize it in the building of shelters.
4. A healthy man, during an emergency, motivated by a desire for his family's survival, will work hard at building a shelter, putting in at least eight hours a day despite fatigue, blisters and so forth.
5. Such a man should be able to shovel earth at a rate of at least one cubic foot per minute, 60 cubic feet per hour, or 480 cubic feet in eight hours.
6. In most cases, the earth will have to be shoveled into a wheelbarrow, moved and then dumped. The rate at which this can be done would vary considerably, but should be in the range of 120 to 240 cubic feet per eight hours for each adult working male.

On the basis of these assumptions, it should be possible for anyone to make modifications for different situations. For example, if only four hours per day can be devoted to building the shelter, the time needed will be half of that if only one man is building.

General Principles

A. If possible, try to make arrangements to use a community shelter. However, remember that on a nation-wide basis, there are, as of November 1962, shelter spaces for only 25 per cent of the population.

B. Do not waste time and energy trying to get into a neighbor's shelter, unless invited in advance. Even if you succeed in forcing your way in, it will do you no good since it was planned for only one family and, if more squeezed in, everyone in the overcrowded shelter would probably die of suffocation. Instead, use the available time to increase your own family's chances of survival. Even in an hour or two, you can build a makeshift shelter which could make the difference between death and survival.

C. Remember that the greatest danger is fallout radiation. If you are protected from it, your chances of survival are substantial. After you have provided protection against fallout, you can consider protection against fire and blast.

D. Utilize any existing protection as a basis on which to build. Under certain circumstances, protection factors against fallout radiation multiply rather than add. For example, assume that a room in a basement has a protection factor of 10. If one gets a sturdy table and piles earth around and on top of it to a thickness of about one foot, the table itself could provide a protection factor of about 10. If the table were in the basement room, the total protection factor under the table would be 10 times 10, or 100. However, if an opening in the earth barrier faced a basement window, the protection factor would be much less than 100, perhaps even lower than 20. Therefore, in building a shelter within a shelter, entrances should not face weak points in the outer shield. A chain is as strong as its weakest link, and a shelter is only slightly more protective than its weakest side (or roof).

E. Use available materials. If there is time to obtain special materials, such as sandbags, steel beams or lumber, they are, of course, the best things to use. However, if time is short, it may not be possible to obtain such items, especially if everyone else is also trying to get them. Realistically, when an attack is expected in a short time, the main shielding material available to most people would be earth. Those who have access to crushed rock or to concrete blocks can substitute them for earth.

Also, when the emergency is acute, the main supporting materials available to hold the earth would be those materials already in or part of existing buildings. These would include doors taken off hinges, furniture, shelving, office furniture and fences.

F. Try to work together with a group of neighbors, building emergency neighborhood shelters. A shelter for 10 persons can be built in 75 per cent of the time at 75 per cent of the cost of two shelters for five people each. In suburban areas, it will usually be most efficient to build shelters designed to hold four families each (16 to 20 persons). In cities, it will usually be most efficient to utilize existing large buildings, and to improve their shielding properties.

USE OF EXISTING LARGE BUILDINGS

There are a substantial number of large buildings in downtown areas of cities and towns which would make excellent shelters except for a few gaps in the protective circle because of doors or windows. In an emergency situation, it should be possible to protect those weak spots, thus increasing markedly the degree of protection offered by the building. When this can be done, shelter space may be provided for several hundred additional people. The following discussion applies only to those large multi-storied buildings which have poured, reinforced concrete floors. The ordinary wooden floor supported by joists as found in the average private dwelling, does not offer a significant amount of protection, nor does the furniture, roofing or ceiling above it. Thus, a multi-storied building with wood between the floors would probably not be suitable for modification into a substantial shelter. On the other hand, if the basic floor is made of poured, reinforced concrete with or without some wood flooring on top of it, it is an excellent shielding material. In general, if there are two floors of poured, reinforced concrete above one's head, the attenuation of the radioactivity coming from above will probably be enough to make the shelter satisfactory. If there are at least two concrete ceilings above, steps can then be considered to improve the first floors of such buildings. In most cases the outer walls which may appear substantial are actually only thin screens, unable to resist much radiation. It would, therefore, be necessary to put up a wall of earth all around the first floor of the building. The following steps can usually be taken:

1. Remove the interior doors from within the building and use them to cover up all windows from the outside.

2. Put up a line of interior doors, lumber, office furniture or anything else around the building to a height of at least six feet, at a distance from the building wall of two and one half to three feet. Secure these barriers with some diagonal braces or anything else which may be available. Sometimes a line of parked automobiles can be used to help hold the earth against the building.

3. Shovel earth into the space between the wall of the building and the ring of retaining wall which has been put up. This should provide a wall of earth two and one half to three feet thick around the sides of the building.

4. Block off all windows and other openings on

the second floor of the building so that radioactive material cannot seep through onto the floor. Use whatever materials are available.

5. If additional time remains, do the same thing with the windows on the third and then the fourth floors.

Considering the extent to which this sort of procedure will provide additional shelter space, suppose there is a large downtown building, approximately 100 by 100 feet, with several sets of concrete ceilings above the first floor. If the first floor can be converted into a shelter, it will furnish space for almost 1,000 persons. The amount of earth needed to make the outer radiation barrier would be approximately 6,000 cubic feet, or approximately the amount that could be shoveled and placed by 100 men in four hours. The setting up of the retaining wall to help hold the earth in place might take an equivalent amount of time, or slightly more. Even assuming that it took twice as much time, one finds that a total of 300 men working four hours could provide good shelter space for 1,000 people in this kind of situation. Further, the degree of protection involved in a shelter of this sort would probably be considerably higher than the government minimums. One could expect a protection factor of at least 200 from a shelter built in this fashion.

While some people are building the outside walls and others are covering the windows above, still others can be busy filling every available water container and bringing in stored food.

If everyone knows what to do, and if there are enough digging implements available, it should be possible to convert an otherwise useless first floor of a large building into a superior shelter within a period of four to eight hours.

Building Emergency Neighborhood Shelters in Suburban Areas

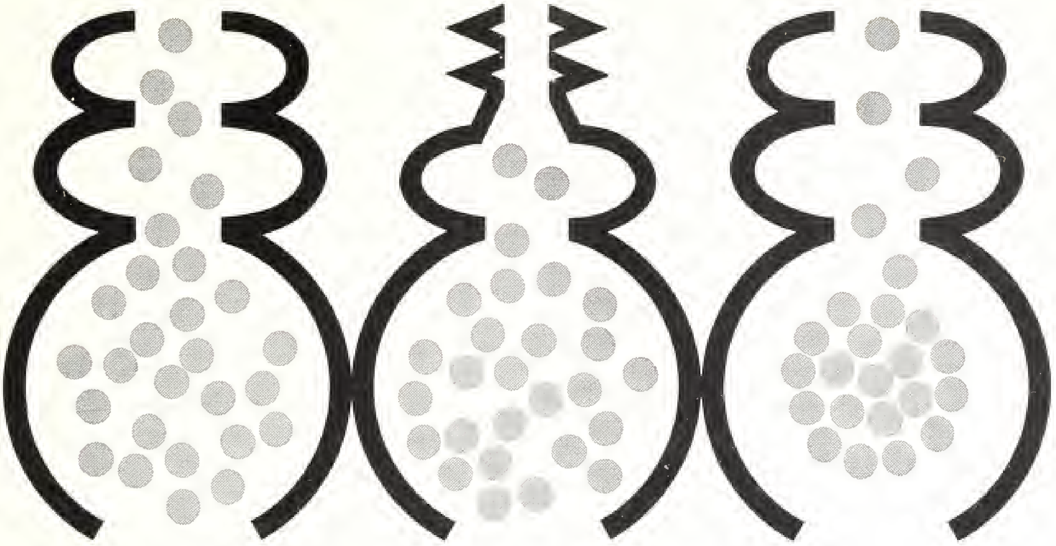
It is always better to work in groups than to work alone. For example, assume that four neighbors each have a basement room which could be converted to a shelter approximately 20 by 10 feet. If each family works on its own shelter, there is a possibility that the enemy attack might come at a time when all four shelters are incomplete and therefore offer little or no protection. A way to help insure against this sort of tragedy would be for the four neighbors to agree among themselves that first, they would all work on one shelter, with the understanding that if an enemy attack comes before others can be built, all four families will be able to use the first shelter since it would be large enough for 20 people. When the first shelter is completed, they then all go and work on the second, and then the third and, if there is time, the fourth. Then, everyone would have more space. If only one or two homes in a group have areas suitable for the construction of shelters, then, of course, it is advisable to build as large a shelter as possible for the accommodation of as many neighbors as the shelter can accommodate without the risk of overcrowding (10 square feet per person).

Some homes are more suitable than others for the construction of emergency shelters. It is worthwhile to emphasize again the importance of being below the surface of the ground. In the event that a basement wall protrudes above the ground for more than six inches, that area which protrudes is a weak spot in the defense against radiation. Even if the wall in question is eight inch thick poured concrete, it will not have enough ability to block radiation. In such cases, it is necessary to mound earth up alongside that wall so that in effect, the barrier to radiation becomes the thickness of concrete plus a thickness of earth of at least 18 inches. Therefore, deep basements are better than walk-out basements.

Some homes, particularly in the Midwest, are built with a room underneath the garage. The floor of the garage and therefore the ceiling of this room, is usually reinforced, poured concrete, with a thickness of five to six inches. A room of this sort is an excellent starting point for shelter construction. If its walls are below ground level on all four sides, it comes close to being a shelter without any additional changes. In most cases, it provides a protection factor of 50. There are two main ways in which this protection factor may be increased. One way is to brace the ceiling from below, using a series of two by four studs, no less than 12 inches apart along the center, and then spreading either four inches of concrete or six inches of earth on the floor above. A second way would be to build inside the room a shelter consisting of a layer of lumber approximately one foot lower than the ceiling, well supported and braced from below, with sand or solid concrete brick placed on the platform just below the ceiling. Here too, either four inches of concrete or six inches of earth would provide adequate protection, raising the protection factor to approximately 200.

Tasks for the Women

While the men are actually building the shelter, the women in the family, assisted by the children, should be packing and storing and



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By controlling hypermotility, the basic mechanical dysfunction of diarrhea, Lomotil reduces the frequency and fluidity of stools, diminishes cramping and controls diarrhea in many patients in whom other drugs have proved inadequate.

In a recent clinical report Cayer and Sohmer[2] state: "The alleviation of symptoms [with Lomotil] was usually prompt, occurring within 24 to 72 hours even in the long-standing chronic cases. . . . A surprisingly satisfactory response was obtained in 75 per cent of the patients with regional enteritis and in 63 per cent of those with ulcerative colitis, all of whom had failed to respond to other measures."

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Dosage: For *adults* the recommended initial dosage is two tablets (2.5 mg. each) three or four times daily. Maintenance dosage may be as low as two tablets daily.

Lomotil is supplied as unscored, uncoated white tablets of 2.5 mg. and as liquid containing 2.5 mg. in each 5 cc. A subtherapeutic amount of atropine sulfate (0.025 mg.) is added to each tablet and each 5 cc. of the liquid to discourage deliberate overdosage. Recommended dosage schedules should not be exceeded.

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Detailed information and directions for use in children and adults are available in Physicians' Product Brochure No. 81. G. D. Searle & Co., P. O. Box 5110, Chicago 80, Illinois.

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[1] Janssen, P. A. J., and Jageneau, A. H.: A New Series of Potent Analgesics: Dextro 2:2-Diphenyl-3-Methyl-4-Morpholino-Butyrylpyrrolidine and Related Amides. I. Chemical Structure and Pharmacological Activity, J. Pharm. Pharmacol. 9:381-400 (June) 1957.

[2] Cayer, D., and Sohmer, M. F.: Long-Term Clinical Studies with a New Constipating Drug, Diphenoxylate Hydrochloride, N. Carolina Med. J. 22:600-604 (Dec.) 1961.

G. D. SEARLE & CO. *Research in the Service of Medicine* purchasing food and storing water. In an emergency, almost any container can be used to store water. Do not depend on the amount left in the hot water tanks. This is to be an emergency supply when everything else is used up. Water can be stored in bottles, in pails, including those which have no lids, in cans, in sinks and in bathtubs. An excellent place to store surplus water is a washing machine, if one is present in the home. Avoid using any detergent, fill the machine with water, and turn it off.

ADDITIONAL MEASURES AFTER THE DETONATION OF THE THERMONUCLEAR WEAPON HAS TAKEN PLACE

Even after a thermonuclear bomb has detonated, and fallout has started to descend, there are things which can be done in a basement which will increase survival chances. Again, the principle of multiplying protection factors is to be kept in mind. Any matter with sufficient mass gives a certain degree of protection against radioactive fallout. Therefore, if you have an area in the basement which is partially protected, but not completely so, it may be possible within a matter of a few minutes to increase the degree of protection to the people there by a factor of two or perhaps even four. This in turn, may make the difference between death and survival. First, remember to keep down so that no part of the body is above the level of the earth outside. Secondly, use tables, shelves or any other material to construct a small box, and pile books, canned food, water or anything else available on top of it. Put small children as close to the center as possible and the adults around them. An arrangement like that is exceedingly uncomfortable. However, it must be remembered that the maximum radiation danger comes during the first seven hours. Therefore, if one can stay in the area of maximum protection for seven hours, the chances of survival go up considerably. Seven hours of discomfort is a relatively small price to pay for survival.

BOOK REVIEW

CANCER, by Lauren V. Ackerman, M.D., and Juan A. del Regato, M.D. C. V. Mosby Company, St. Louis, 1962.

It is important that everyone who consults this book should read the preface. The purpose of the text as stated therein by the authors is to "Provide the specialist and the practicing physician as well as the medical student with information on the natural life history of the different manifestations of the disease cancer, with a guide toward earlier utilization of diagnostic means and an understanding of the therapeutic possibilities and prognosis of a given patient." Simply stated this means "How is cancer diagnosed, how does one go about treating cancer and how will a particular cancer behave in a particular individual."

The purpose then is quite liberal and inclusive. The literature on cancer is voluminous, even if we exclude that which may be even remotely historical. The review of this literature is quite well done and the extent is denoted by the generous number of references. The compilation of the references alone makes the book a much worthwhile addition to one's library. There is generous use of illustrations. The line drawings by Virginia Swarz Ackerman are quite outstanding and convey their purpose definitely. Many diagrams, charts and photographs have been collected from the literature and are good. The microphotographs and roentgenograms are well chosen and good. The clinical photographs and many of those of the gross specimens leave much to be desired. Then, too, the paucity of the photographs of early cancer is in glaring contrast to the many photographs of the clinical oddity with grossly obvious cancers occupying the whole lower lip, the entire tongue or the entire breast. The failure to include early lesions as teaching material detracts greatly from the value of this most worthwhile reference and text.

I would doubt that the medical student would know what an "early cancer" of the mammary gland felt like or looked like, either in or out of the breast tissue, after reading this chapter.

The role of surgery in the treatment of cancer as a therapeutic or even palliative measure has been neglected. Discussion of the often complementary effect obtained with surgery and irradiation is inadequate. Chemotherapy as a valuable adjunct in palliative therapy warrants much more attention.

The short chapter on cancer research by Shimkin is good, but here again the role of chemotherapy is not given enough place. Virology and immunology are important facets in cancer research and in a book titled "Cancer" merit more extensive discussion.

There is a good discussion of the basic concept of radiotherapy. The importance of the protraction of radiotherapy and the advantage of the use of multiple ports in the administration is emphasized, and properly so.

These shortcomings then are well within the purpose as stated. L. H. J.

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Kenneth C. Hollweg, M.D.

President's Message

Prior to the time this issue of MISSOURI MEDICINE reaches the membership I shall have had the privilege and the responsibility of naming members of committees for the coming year. To those of you who may have been desirous of certain committee appointments and have not been named, I apologize. It is not possible to place all of our well-qualified members in these positions. To those of you appointed, I would like to point out that it has not only been my obligation to name the committee members, but it has been my privilege to name members who will accept places of obligation on various committees of the Association. After having completed our Annual Session, it most assuredly becomes obvious to everyone whether working on the committees or actively engaged in the problems of the Association that the committee reports are of utmost significance to all of us. As one of your elected officers, I can assure you that the reports of our various committees are regarded as a most important step in the ultimate decision of the policies finally accepted by the House of Delegates or in the interim sessions accepted by the Council. All of us are guided by the important decisions carefully evaluated by our committees. It, therefore, becomes a select honor and obligation for each member of each committee to faithfully serve in the capacity for which he has been appointed. The people chosen have reached these appointments by virtue of their qualifications as well as their interest in their various fields.

As your President for the ensuing year, I urge all committee members to realize the important part they play in the progress of our Association and will respond in a manner befitting our professional responsibilities.

I can assure you that now as in the past your officers, the Council and most certainly our able staff are all at any time ready to be of assistance to allow your committee to function actively and as efficiently as possible.

KENNETH C. HOLLWEG, M.D.

EDITORIAL

IT'S OUR PROBLEM

Historically medicine has passed many crossroads. Sometimes it has pursued the right course, sometimes wastefully retraced its steps or wandered aimlessly. Today we are again at one of the important crossroads and the test of our wisdom is at hand.

* * *

The cost of medical care and education in preparation to give that care has skyrocketed. We are faced with a multitude of suggestions for the means to produce the financial support for care; we have not as yet systematically considered the means which are available to reduce the cost of its production. While it is true that the quality of service rendered has increased at an even more rapid rate than its cost (for those who can get it) it is also true that the range of quality of health care actually delivered to the patient continues to spread. The complexity and rapid addition of new services available has often served to defeat the present system of "request and response" which has traditionally related the patient to the physician.

* * *

The role of the specialist is particularly interesting. More and more value has been placed upon knowledge in depth until the mark of intelligence has become the greatest possible amount of information within the smallest possible scope. In fact, the boundaries of each specialty has resulted from the limits of the memory of a single person. It is clear that machines not only have better memories but that, given human guidance, they can calculate at an almost infinitesimal speed. Thus the generalist in the new medical world could have unlimited recall and calculating ability at his fingertips if he would but furnish wisdom. It is time to evaluate the worth of breadth in knowledge as well as depth.

* * *

Industry long ago faced these problems and its generalists are rewarded equally in prestige and acceptance with its specialists. Information concerning and distribution of its services received primary attention. The use in production of machines, either mechanical or electronic, has been fully explored to provide the greatest service at the least cost. Nostalgic comments, notwithstanding, the hand craftsman cannot compete qualitatively or quantitatively with mechanical devices. In so relatively simple a device as a car, we consciously direct or handle an extremely small part of its total performance. Conversely the car is a valueless tool without human judgement and guidance. The same role for mechanical devices needs to be freely and aggressively sought in the field of medical care. There is no threat of replacing the value of clinical judgement and medical wisdom.

* * *

Let it be made clear that I do not believe that mechanical devices per se produce unemployment, only our resistance to change does this—greater productivity for each man means greater potential wealth or improved care for him.

* * *

Inherent in this discussion is the plea for the reevaluation of the role, the requirement for and the acceptance of the family physician. Unless the medical profession awakens to the challenge presented, takes advantage of the latest in scientific distribution of care, and provides an adequately trained and completely accepted family physician, the primary point of contact with patients will be lost by default to others who are anxious to assume it. This would constitute the first irrevocable step in the development of a group of physicians who will serve as technicians at the beck and call of non-medically trained or partially trained individuals. Perhaps it is already too late but I refuse to take such a pessimistic attitude. The remedy will only be forthcoming from the considered and united efforts of physicians in practice and in education.

VERNON E. WILSON, M.D.

Ramblings of the Field Secretary

A dinner meeting of the Sixth Councilor District of the MSMA was held at the VFW Hall in Harrisonville on Wednesday evening, February 13. The evening festivities began with a social hour at 6:30 p.m. followed by dinner and then the program. The formal part of the meeting was called to order by Dr. Edward S. Jones, Harrisonville, President of the West Central Missouri Medical Society, which served as host to the meeting. Dr. Jones expressed the appreciation of the host Society for the privilege of having a small part in the meeting and gave a warm welcome to all present. He then turned the meeting over to Dr. O. B. Barger, Harrisonville, Councilor of the Sixth District.

Drs. Jones, Hollweg, Senator Cason and Dr. Barger.

With an appropriate introduction, Dr. Barger presented State Senator William J. Cason, Clinton, Mo., who spoke on the subject, "Medical Care for the Aged," which took in a discussion of proposed implementation of the Kerr-Mills Law in Missouri through five bills which have been introduced in the Missouri legislature. These bills are: Senate Bill 140 and companion House Bill 254, to amend by expanding the present Kerr-Mills Law in Missouri regarding the needy; Senate Bill 148 providing that the Division of Welfare shall establish a program for the "near needy," and Senate Bill 142 with companion House Bill 255 to provide an Advisory Committee to the Director of Welfare regarding Kerr-Mills to consist of 11 members with at least three physicians included.

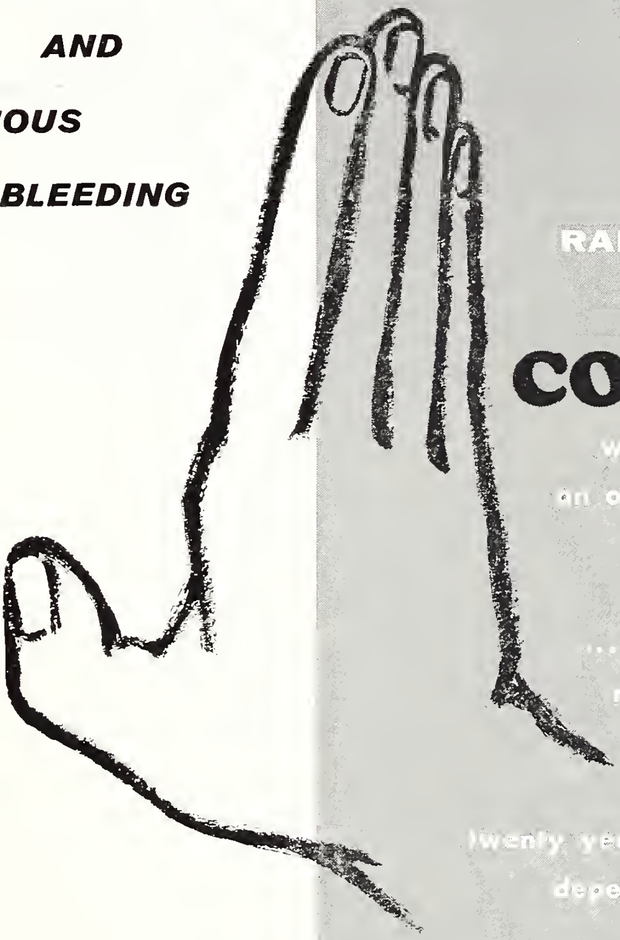
Senator Cason reported that these bills follow closely the recommendations of the joint committee from the Senate and House of the Missouri legislature which studied the problem of providing medical care assistance to the senior citizens of the State of Missouri during the interim between the last session of the Missouri legislature and the opening of the present one. A lively question and answer period followed Senator Cason's formal presentation.

The closing discussion of the evening was presented by Mr. T. R. O'Brien, Executive Secretary of the MSMA, on the subject, "Proposed Legislation of Interest to Medicine Now Pending in the Missouri Legislature." He gave a brief résumé of numerous bills pending in the Missouri legislature which affect the medical profession of this state. He also pointed out the present status of these legislative proposals as far as action had been taken on them in the legislature. A short discussion was also held on some of the matters to be considered by the House of Delegates during the Annual Meeting of the MSMA, March 24-27 in Kansas City. Twenty-five doctors representing most of the societies comprising the Sixth Councilor District were in attendance. A special guest was Dr. Kenneth Hollweg, Kansas City, President-Elect of the State Medical Association.

The Cole County Medical Society played host to a meeting of the Fifth Councilor District of the MSMA in the Missouri Hotel in Jefferson City on Thursday evening, February 21. Forty physicians and guests were present to enjoy a pleasant, entertaining and informative evening. A social hour preceeded dinner and the formal program.

At the conclusion of dinner Dr. C. Stuart Exon, President of the Cole County Medical Society placed the meeting under way with introductions and a statement of welcome from the host society. He then introduced Dr. Byron Stuart,

Senator Cason was the featured speaker.



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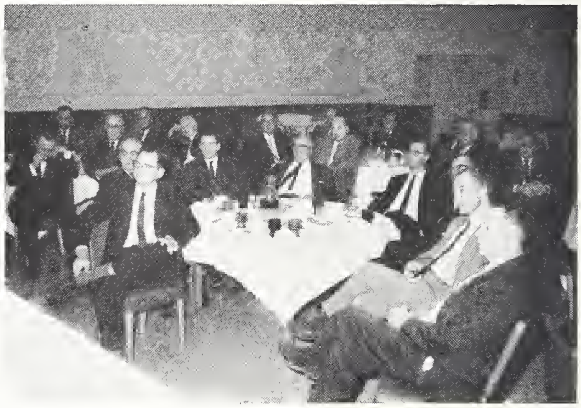
Boonville, Councilor of the Fifth District, who extended his personal greetings and appreciation to those present; presented a few remarks regarding the purpose of the meeting, and then requested that Dr. Exon preside for the rest of the program.

The first speaker of the evening introduced by Dr. Exon was Representative Thomas D. Graham of Jefferson City, speaker of the Missouri House of Representatives. Mr. Graham is the representative of Cole County in the Missouri House. He spoke on the subject, "Under the Capitol Dome." His was an interesting presentation spiced with anecdotes of happenings in the legislature. In his remarks he placed considerable stress upon the need for physicians to take a greater interest in politics and to use their great influence for good, sound legislation both on state and federal levels. His remarks indicated the many factors influencing a particular piece of legislation being considered by legislative bodies and the many vested interests involved. He stressed the point that physicians as highly educated and well respected citizens in their communities have a most favorable opportunity to help in seeing that sound legislation is enacted both in Jefferson City and in Washington.

Representative Graham of Cole County was the guest speaker.



Fifth Councilor District doctors were interested in the program.

The second speaker of the evening was Dr. John I. Matthews, Jefferson City, Secretary of the MSMA. Dr. Matthews discussed in detail the scientific program for the Annual Meeting of the State Association in Kansas City, March 24-27, and made a strong plea for those in attendance to be in Kansas City at that time. He also mentioned various group meetings and social affairs making up a part of this March 24-27 important affair. He pointed out that the program this year is of sufficient variety to interest all members of the Association.

The last speaker on the program was Mr. T. R. O'Brien, Executive Secretary of MSMA, who discussed "Proposed Legislation of Interest to Medicine Now Pending in the Missouri Legislature." In addition to his brief remarks concerning proposed medical legislation he passed out to the physicians present a written analyses of many of these proposals. In his remarks he discussed briefly the bills which have been introduced in the Missouri Legislature to further implement the Kerr-Mills Law in this state.

In addition to Representative Graham, another special guest was present. This was Representative David Rolwing from Mississippi County, whose home is in Charleston, Missouri.

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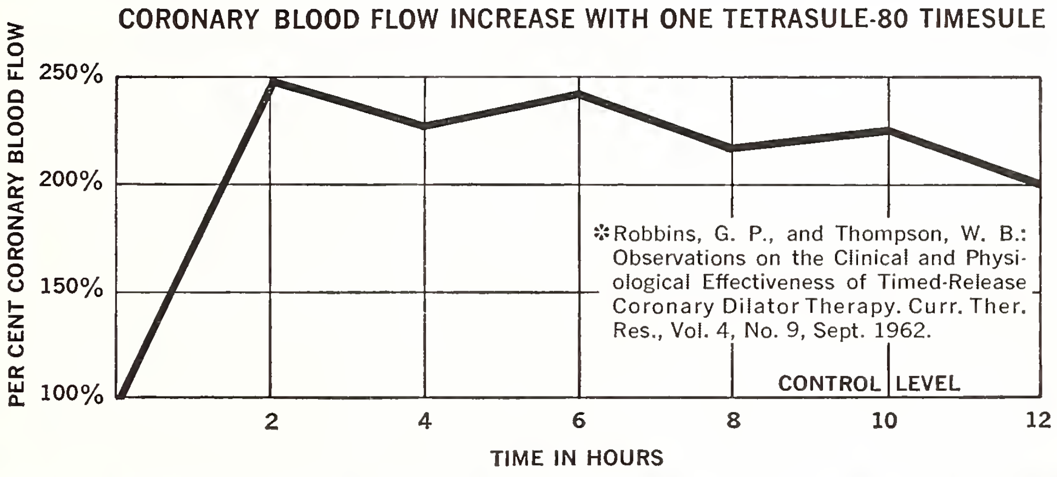

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*Robbins, G. P., and Thompson, W. B.: Observations on the Clinical and Physiological Effectiveness of Timed-Release Coronary Dilator Therapy. Curr. Ther. Res., Vol. 4, No. 9, Sept. 1962.

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News—Personal and Professional

At a recent meeting **Rollin H. Smith**, M.D., West Plains, was elected chief-of-staff of the medical board of the West Plains Memorial Hospital. **Jack Wiles**, M.D., was elected secretary.

The Madison Memorial Hospital recently elected **Marvin Grossman**, M.D., Fredericktown, as chief-of-staff. **C. W. Chastain**, M.D., Farmington, was elected vice chief, and **Charles E. Michaelis**, M.D., Fredericktown, elected secretary.

At a meeting of the American College of Radiology held in February, **Kenneth C. Hollweg**, M.D., Kansas City, was one of 60 radiologists to be made a fellow of the organization.

Named Unitarian of Greater Kansas City for the preceding year was **John McLeod**, M.D., Kansas City.

The Independence Licensed Practical Nurses were addressed at a meeting held at the Independence Sanitarium by **Edward B. Shires**, M.D., Leawood, Kansas, on "Polio."

A 30 year Legion of Honor certificate was awarded to **Guy N. Magness**, M.D., University City, recently by the University City Kiwanis Club.

The Columbia members of the Student American Medical Association recently honored **Vernon E. Wilson**, M.D., Columbia, at a "Golden Apple Awards Banquet" held in Columbia.

At Thursday afternoon conferences in January at the Ellis Fischel State Cancer Hospital **Hugh E. Stephenson Jr.**, M.D., Columbia, discussed "Cardiac Resuscitation," and **Hal G. Bingham**, M.D., Columbia, discussed "Reconstructive Surgery of the Head and Neck After Radical Cancer Surgery."

The staff of Sisters Hospital, St. Joseph, recently elected **John L. Mothershead**, M.D., as president, and **Irwin Rosenthal**, M.D., as secretary-treasurer.

"What Is an Ophthalmologist?" was the subject of a talk given by **William R. Eubank**, M.D., Kansas City, at the Breakfast Club at a January meeting.

Among physicians attending the Seventh International Congress on Diseases of the Chest in New Delhi in February was **Alfred Goldman**, M.D., St. Louis, vice president of the organization.

Participating in a seminar on "Cerebral Palsy" in Bogota, Colombia, this spring was **D. Elliott O'Reilly**, M.D., St. Louis.

The American College of Chest Physicians recently appointed **Charles A. Brasher**, M.D., Mount Vernon, as chairman of the college's committee on by-laws. Dr. Brasher also was recently named a member of the committee on tuberculosis of the American School Health Association.

The Greater Kansas City Society of Oral Surgeons recently installed **G. Farrell Webb**, M.D., as president.

A lapel pin symbolizing 50 years in the Masonic fraternity was presented recently to **O. L. Seabaugh**, M.D., Cape Girardeau.

The Woman's Auxiliary of the Pettis County Medical Society was recently addressed by **D. R. Edwards**, M.D., Sedalia, on proposed legislation.

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New Members

Federico Adler, M.D., 701 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Adler is a native of Austria, received his preliminary education at Colegio Mejia, Quito, Ecuador, and his M.D. degree at Central Universidad, Quito, in 1954.

Richard D. Benjamin, M.D., 2933-B Bomarc St., Tyndall AFB, Florida, has become a member of St. Louis Medical Society. Dr. Benjamin is a native of Missouri, received his preliminary education at Washington University, and his M.D. degree at the University of Missouri in 1959.

Sydney L. Bryant, M.D., 902 Edmond St., St. Joseph, has become a member of Buchanan County Medical Society. Dr. Bryant is a native of Landour, India, received his preliminary education at Southwest State University, and his M.D. degree at Tulane University in 1956.

C. Phil Cheatham, M.D., 2307 Earl St., Poplar Bluff, has become a member of Butler-Ripley-Wayne County Medical Society. Dr. Cheatham is a native of Tennessee, received his preliminary education at the University of Tennessee, and his M.D. degree at the University of Tennessee in 1958.

Frank L. Coyle, M.D., 3555 Bingham St., St. Louis, has become a member of St. Louis Medical Society. Dr. Coyle is a native of New Jersey, received his preliminary education at Holy Cross College, and his M.D. degree at St. Louis University in 1959.

Robert L. Glass, M.D., 9536 Plainfield Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Glass is a native of Missouri, received his preliminary education at Washington University, and his M.D. degree at Washington University in 1958.

Karl A. Jacob Jr., M.D., 525 Clara Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Jacob is a native of Ohio, received his preliminary education at Washington University, and his M.D. degree at Washington University in 1959.

Margaret M. Oakley, M.D., 7463 Kingsbury Place, St. Louis, has become a member of St. Louis Medical Society. Dr. Oakley is a native of Illinois, received her preliminary education at the University of Illinois, and her M.D. degree at St. Louis University in 1959.

Mark S. O'Brien, M.D., 2217 Mithra St., New Orleans, Louisiana, has become a member of St. Louis Medical Society. Dr. O'Brien is a native of New Jersey, received his preliminary education at Seton Hall University, and his M.D. degree at St. Louis University in 1959.

Harold J. Ott, M.D., 1929 Alfred Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Ott is a native of Missouri, received his preliminary education at Notre Dame University, and his M.D. degree at St. Louis University in 1959.

Nicholas Owen, M.D., 731st Med. Detachment, APO 173, New York, N. Y., has become a member of St. Louis Medical Society. Dr. Owen is a native of Wisconsin, received his preliminary education at Harvard University, and his M.D. degree at Washington University in 1959.

William Q. Sturner, M.D., 819 Third Ave., Southeast, Waseca, Minn., has become a member of St. Louis Medical Society. Dr. Sturner is a native of Minnesota, received his preliminary education at St. Thomas College, and his M.D. degree at St. Louis University in 1959.

Robert L. Westerheide, M.D., 124 King Ave., Columbus, Ohio, has become a member of St. Louis Medical Society. Dr. Westerheide is a native of Ohio, received his preliminary education at the University of Dayton, and his M.D. degree at St. Louis University in 1959.

George P. Wilson, M.D., Professional Bldg., Columbia, has become a member of Boone County Medical Society. Dr. Wilson is a native of Missouri, received his preliminary education at the University of Missouri, and his M.D. degree at Washington University in 1956.

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Positive suppression of gastric acid volume. Moeller[1] demonstrated that 2 mg. of Robinul decreases the volume of HCl secreted by 73% within one hour and 85% within two. Epstein[2] described Robinul's "intensive antisecretory action" as "exemplary."

Significant increase in gastric pH. In his studies comparing the effect of anticholinergics on gastric pH, Sun[3] found that the optimum effective dose of Robinul "...produced suppression of gastric acidity to pH 4.5 or higher in all 16 patients examined." Posey[4] reported "an excellent reduction of gastric acidity ...in 12 of 15 patients...."

Desirable antimotility effect. Young and Sun[5] found that although Robinul (given subcutaneously) demonstrated its ability to suppress antral motility, a 2 mg. oral dose "did not affect gastric emptying or intestinal transit time" in six patients with duodenal ulcer.

New freedom from side effects. Robinul has shown that an anticholinergic need not be plagued with a high percentage of side effects. Of 1705 patients in clinical investigations, many of whom were studied on above-normal doses, fewer than 7% experienced side effects of a moderate-to-severe degree, with only 3% requesting discontinuance of the medication.

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PRECAUTIONS: Administer with care to patients with incipient glaucoma. Contraindicated in acute glaucoma, prostatic hypertrophy, and in presence of urinary bladder neck obstruction or pyloric obstruction or stenosis with significant gastric retention. Robinul-PH is contraindicated in patients sensitive to phenobarbital or with advanced hepatic or renal disease.

REFERENCES: **1.** Moeller, H.C.: Ann. New York Acad. Sc. 99:158, Feb. 28, 1962. **2.** Epstein, J. H.: Am. J. Gastroent. 37:295, 1962. 3. Sun, D.C.H.: Ann. New York Acad Sc. 99:153, Feb. 28, 1962. **4.** Posey, E.L., Jr.: Am. J. Digest. Dis. 7:863, 1962. **5.** Young, R., and Sun, D.C.H.: Ann. New York Acad. Sc. 99:174, Feb. 28, 1962.

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County Society News

FIRST DISTRICT

JOSEPH L. FISHER, COUNCILOR, ST. JOSEPH

Buchanan County Medical Society

Sixty-five doctors from St. Joseph, Northwest Missouri and Northeast Kansas attended the annual Heart Program of the Buchanan County Medical Society on Wednesday, February 6, in the Empire Room of Hotel Robidoux. A business session and scientific program followed a social hour and dinner at 6:30 p.m.

The speaker was Hugh E. Stephenson Jr., M.D., Professor of Surgery at the University of Missouri Medical Center, who spoke on "Surgical Complications of Coronary Artery Disease." Dr. Stephenson gave a comprehensive discussion on the technics involved in various types of heart surgery. He credited increased research to saving many more lives in cardiac surgery than was previously possible. His paper was illustrated with motion pictures and slides showing the various procedures described. The program was sponsored by the St. Joseph Chapter of the Missouri Heart Association.

Dr. John R. McDaniel, President, presided at the meeting. The speaker was introduced by the Society's program chairman, Dr. F. Gregg Thompson III.

William Redmond, M.D., *Secretary*

Grand River Medical Society

The February monthly meeting of the Grand River Medical Society and the Women's Auxiliary was held at Chillicothe's Strand Hotel on February 14. A total of 31 members, wives and guests enjoyed the smorgasbord dinner.

Following dinner Dr. Garth Hemenway, Chief of the Section of Ear, Nose and Throat of the University of Missouri Medical School, spoke to the doctors concerning some of the problems of otolaryngology in general practice. A lengthy question period followed his presentation.

The Auxiliary held its separate program.

After a short business meeting in which Joseph Conrad was nominated as candidate for representative of our Blue Shield area, the meeting adjourned.

Guests present in addition to Dr. Hemenway included Walt Schroeder of Squibb Co., Jim Rearsing of Ciba and Vernon Asmus of Rorer.

Jack L. Vinyard, M.D., *Secretary*

Nodaway-Holt-Atchison-Gentry-Worth County Medical Society

A regular meeting of the Nodaway-Holt-Atchison-Gentry-Worth County Medical Society was held in Tarkio on Tuesday night, February 12. Officers elected for 1963 were: George R. Wempe, M.D., Maryville, President; John Wanamaker, M.D., Rock Port, Vice President; and Frank B. Matteson, M.D., Grant City, Secretary-Treasurer.

The Society was privileged to have present at this meeting Dr. J. L. Fisher of St. Joseph, Councilor of the First District of the MSMA. Delegates to the MSMA elected were: E. D. Imes, M.D., Maryville, Nodaway County, Delegate and R. E. Dunshee, M.D., Maryville, Alternate; Wallace Carpenter, M.D., Rock Port, Atchison County Delegate and E. L. Niedermeyer, M.D., Tarkio, Alternate; A. L. Carlin, M.D., Stanberry, Gentry County Delegate; F. B. Matteson, M.D., Grant City, Worth County Delegate; James Humphrey, M.D., Oregon, Holt County Delegate.

F. B. Matteson, *Secretary*

SECOND DISTRICT

A. P. ROWLETTE, MOBERLY, COUNCILOR

Chariton-Macon-Monroe-Randolph County Medical Society

On Thursday night, February 14, the Chariton-Macon-Monroe-Randolph County Medical Society held a dinner meeting at the Woodland Hospital in Moberly.

The featured speaker for the evening was H. M. Hardwicke, M.D., Acting Director, Missouri Division of Health, Jefferson City. Dr. Hardwicke spoke on "Public Health Problems in Missouri." He pointed out that one of the big reasons why public health programs have progressed so well in Missouri is due to the fine cooperation between the practicing physicians in the state with official public health personnel. He complimented the local medical society for its position in backing the proposed local county health unit. His discussion took in a number of additional items well recognized as public health problems in this state.

Guests present in addition to Dr. Hardwicke

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were Dr. Leopold LaChance, Centralia and Dr. Sanford Severin, Brooks AFB, Texas, who took over Dr. Daniel Stuart's practice at Brunswick for approximately a month. Dr. Severin gave a short report on some of the work being done in space medicine.

Members present were: Drs. Eggleston, James Campbell, Carl Rinker, Macon County; Avery P. Rowlette, J. Will Fleming Jr., Thomas S. Fleming, Robert H. Young, W. Deward Chute, C. C. Smith, C. C. Cohrs, L. E. Huber, Robert Hasson and P. V. Dreyer, Randolph County; F. L. Harms and G. C. Rice, Chariton County, and F. A. Barnett and G. M. Ragsdale, Monroe County.

J. Will Fleming Jr., M.D., *Secretary*

Marion-Ralls-Shelby County Medical Society

The Marion-Ralls-Shelby County Medical Society held a dinner meeting at the Moose Lodge in Hannibal on Tuesday night, February 19.

The scientific program for the evening was presented by Lester Wolcott, M.D., Chief, Section of Physical Medicine and Rehabilitation, University of Missouri Medical School, Columbia. Dr. Wolcott presented an interesting discussion on, "Physical Medicine and Rehabilitation With Emphasis on General Practice." Following his formal presentation a lively general discussion with much audience participation took place.

Dr. Wolcott's appearance on this program was under the joint sponsorship of the Postgraduate Committee of the University of Missouri Medical School and the MAGP.

John H. Walterscheid, M.D., *Secretary*

FOURTH DISTRICT

PAUL R. WHITENER, ST. LOUIS, COUNCILOR

Lincoln-St. Charles County Medical Society

Michael M. Karl, M.D., St. Louis, spoke at a dinner meeting of the Lincoln-St. Charles County Medical Society, at the Three Flags Restaurant in St. Charles on Tuesday night, February 26. He spoke on "Hepatic Complications of Drug Therapy."

This was a well received discussion. The evening festivities began with a social hour followed by dinner and then Dr. Karl's presentation.

Robert J. Fleming, M.D., *Secretary*

SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

Lafayette-Ray County Medical Society

The February meeting of the Lafayette-Ray County Medical Society was held on February 12 in Lexington. The meeting began with an enjoyable dinner at Maib's Cafe, following which the group met at the Lexington Medical Clinic for the business meeting.

Dr. W. E. Martin called the meeting to order and introduced Mr. Ike Skelton, Attorney at Law, as guest speaker of the evening. The subject discussed was that of medical legal problems. Mr. Skelton gave a fine review of a recent medical legal meeting held in Kansas City, Missouri. Following this excellent presentation an informal discussion was held in which all members participated enthusiastically.

Wayne Boydston, M.D., *Secretary*

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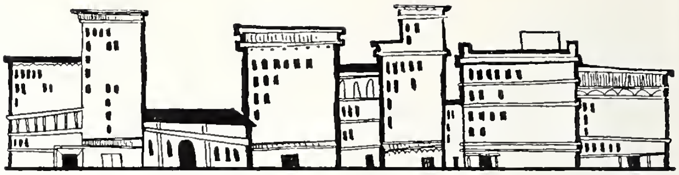

ST. LOUIS UNIVERSITY

Guest Investigator

Dr. Harold Van Kley, assistant professor of biochemistry at the St. Louis University School of Medicine, is spending six months at the University of Uppsula as a guest investigator in a study on protein biochemistry. He arrived in Sweden on February 28.

Dr. Van Kley joined Dr. Arne Tiselius, Director of the Institute of Biochemistry at the University of Uppsala, in a study on technics for purification of proteins.

Dr. Tiselius was awarded the Nobel Prize for electrophoresis of proteins in 1948 and is Chairman of the Nobel Committee.

Dr. Van Kley was awarded the A.B. degree by Calvin College, Grand Rapids, Michigan and the Ph.D. degree in biochemistry by the University of Wisconsin in 1958 after which he joined the St. Louis University biochemistry department as an instructor in biochemistry. He advanced to assistant professor in 1961.

Since his association with St. Louis University, Dr. Van Kley's research interests have been in the field of protein chemistry. The Department of Biochemistry is directed by Dr. Edward A. Doisy Sr., Nobel Prize winning biochemist.

Under a grant made by the United States Publice Health Service, which is supporting Dr. Van Kley's research study in Sweden, he has been studying the control mechanisms for enzymes using a mold which produces different types of enzymes. The grant award totals $23,663 for a three year period.

In the research study, Dr. Van Kley is attempting to discover why the mold produces a variety of enzymes. In studying the enzymatic control mechanisms he is trying to shed some light on how certain cancer cells might react to chemotherapeutic drugs.

Dr. Van Kley is a member of Sigma Xi, scientific honorary society and of the American Chemical Society.

AOA Lecture

Dr. R. Walter Schlesinger, director, department of microbiology at the St. Louis University School of Medicine, delivered the annual Alphonse M. Schwitalla lecture sponsored by Alpha Omega Alpha, national honorary medical society March 5.

Dr. Schlesinger's lecture was entitled "Some Aspects of Infections and Tumor Induction by Adenoviruses."

Dr. Schlesinger is a member of the Virology and Rickettsiology Study Section, National Institutes of Health, and former Chairman, Division of Virology, Society of American Bacteriologists.

In 1961, Dr. Schlesinger was one of 19 scientists in the United States to be awarded a Senior Visiting Fellowship for 11 weeks of study abroad by the Organization for European Economic Cooperation through the National Science Foundation.

Dr. Schlesinger was associated with Dr. Werner Schaefer, director of the Max Planck-Institute for Virusforschung at Tubingen in West Germany in the research study. They worked on the basic aspects of virus multiplication in cultured human cells, particularly with dengue and yellow fever viruses.

Following the lecture, an initiation banquet honoring new members of Alpha Omega Alpha was held at Cheshire Inn. Dr. Schlesinger, nine seniors and five juniors were initiated into the honor society.

The AOA lecture was established 13 years ago to honor Rev. Alphonse M. Schwitalla, S.J., for his years of constructive leadership and invaluable influence as head of the School of Medicine. Father Schwitalla was dean of the School of Medicine from 1927 to 1948.

Founders Week

Dr. Joseph M. Krebs, graduate of the class of 1938, has been appointed General Chairman for Founders Week for 1963. Dr. Vallee Willman, graduate of the class of 1951, has been appointed Clinical Academic Chairman, and Dr. William J. Gillespie, a graduate of 1948, will serve as Chairman for Reunion Classes. The new officers will represent the Medical Alumni Association

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in making plans for Founders Week to be held next Fall.

In the News

The Surgeon General of the United States Public Health Service has invited Dr. John P. Wyatt, director, department of pathology, to serve as an advisor to the Advisory Committee on Smoking and Health of the Department of Health, Education and Welfare. President Kennedy authorized the establishment of the committee. Its purpose is to provide and review scientific data relating to this important health problem.

Symposium

A symposium on Research in Neurology and Psychiatry, sponsored by the Department of Neurology and Psychiatry, was held on March 22 in conjunction with the dedication of the Max and Anna Tureen Neurological Research Laboratories.

Guest speakers and their subjects were: Dr. Benjamin Boshes, chairman, department of neurology and psychiatry, Northwestern University; Dr. George H. Bishop, professor emeritus of neurophysiology, Washington University, "Pain"; Dr. Richard Gordon, director of research, Monsanto Chemical Company, "Nutritional Effects on the Nervous System"; Rev. Albert Moraczewski, O.P., research neuropharmacologist, Houston State Psychiatric Institute, "The Action of Phenothiazines on Brain Mitochondrial Structure and Function"; Dr. Marvin Stein, associate professor of psychiatry, University of Pennsylvania, "The Psychiatrist in Psychiatric Research"; Dr. Melvin Sabshin, professor of psychiatry, University of Illinois, "The Social Context of Psychiatric Research," and Dr. Philip Q. Seitz, Chicago Psychoanalytical Institute, "Personality Development, Pathogenesis, and the Problem of Causality." Chairman of the morning session was Dr. Louis L. Tureen, chairman, division of neurology. Dr. Edward T. Auer, director, department of neurology and psychiatry served as afternoon chairman.

Dedication of the Max and Anna Tureen Neurological Research Laboratories followed the day-long program. The Very Rev. Paul C. Reinert, S.J., University president, dedicated the new facility. The family of Dr. Tureen contributed more than $22,000 toward the establishment of the laboratories in memory of their parents. Matching funds amounting to $15,000 made available by a grant from the United States Public Health Service supported construction of the laboratories.

DEATHS

Sultzman, Francis E., M.D., Hannibal, a graduate of Washington University, 1922; member of Marion-Ralls-Shelby County Medical Society; aged 71; died January 21, 1963.

Allen, Horace E., M.D., Columbia, a graduate of Washington University, 1930; member of Boone County Medical Society; aged 62; died February 3, 1963.

DePew, Heber B., M.D., St. Louis, a graduate of St. Louis University, 1908; member of St. Louis Medical Society; aged 84; died February 4, 1963.

Zaborsky, John, M.D., Steelville, a graduate of Missouri Medical College, 1895; member of St. Louis Medical Society; aged 91; died February 5, 1963.

Zegner, Carl, M.D., St. Louis, a graduate of the University of Nebraska, 1926; member of St. Louis Medical Society; aged 64; died February 5, 1963.

Miller, Walter P., M.D., Kansas City, a graduate of the University of Kansas City, 1913; member of Jackson County Medical Society; aged 76; died February 6, 1963.

Curl, Howard E., M.D., Joplin, a graduate of the University of Illinois, 1917; member of Jasper County Medical Society; aged 76; died February 7, 1963.

Wilcox, Claude V., M.D., St. Louis, graduate of St. Louis University, 1921; member of St. Louis Medical Society; aged 69; died February 9, 1963.

Gestring, Hugh A., M.D., Kansas City, a graduate of the University of Kansas, 1921; member of Jackson County Medical Society; aged 72; died February 15, 1963.

Roebber, Harry M., M.D., Flat River, a graduate of Washington University, 1927; member of Mineral Area Medical Society; aged 63; died February 15, 1963.

Walsh, William T., M.D., Morgantown, West Virginia, a graduate of Hahnemann Medical College, 1908; member of Greene County Medical Society; aged 81; died February 18, 1963.

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Children: ½ teaspoon (=2.5 cc.) per 15 lb. of body weight every four hours day and night until stools are reduced to five daily, then every eight hours for three days.

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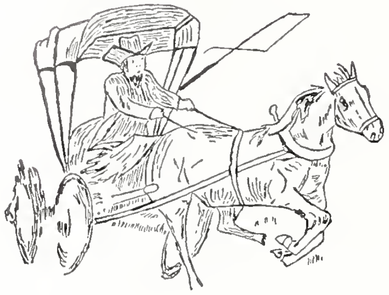
Missouri Medicine in Review



FORTY YEARS AGO

The reputable medical profession of Missouri may again lift its head, bowed in humiliation two years ago, and proudly face the reputable physicians throughout the country, for the legislature has restored the word "reputable" to the law governing medical colleges and the governor has signed the bill. It will become a law in ninety days. A nurses' bill was passed, providing that registered nurses should have one year of high school preliminary education and two years of hospital training, and gives practical nurses recognition by allowing them to use the title "Practical Nurse," or "P.N." This bill was a committee substitute for seven or eight individual bills.

The American Board for Ophthalmic Examinations composed of the ablest and best known ophthalmologists in the country, has been offering since the year 1917, to examine all physicians in good standing who desire to obtain recognition as eye specialists. So highly valued has the approval of this board become, that now it is impossible without it to become a member of the American Academy of Ophthalmology and Oto-Laryngology, of the American Ophthalmological Society or a member as ophthalmologist of the American College of Surgeons. Throughout Missouri, there are about 120 physicians in all, there have but 20 obtained the certhroat work exclusively. In addition, there are about 60 more doing eye work in conjunction with general practice. Of this number, 180 physicians in all, there have but 20 obtaind the certificate of the American Board of Ophthalmic Examination. Two are in Kansas City, eighteen practice in St. Louis.

An important development in preventive medicine is the recent combination of the American Child Hygiene Association and the American Child Health Organization into one body, known as the American Child Health Association. Mr. Herbert Hoover has been made president of the new association, and has brought into close cooperation with it the personnel and executive force of the American Relief Association, which has been doing such extensive work among the children in Europe for the past six years. That the health work will have competent and proper medical direction is assured by the presence of such men on the executive council as Doctors Holt and Van Ingen of New York, Dr. Hamill of Philadelphia, Dr. Richard Smith of Boston and others.

TWENTY-FIVE YEARS AGO

R. G. Leland, M.D., Director, Bureau of Medical Economics, American Medical Association, comments: "The scattered 'brain-trusters' who would plan new methods of medical practice, have constantly refused to recognize the steadfast purpose and the continued forward advance that have characterized medicine since the earliest times. This steadfastness of purpose and unswerving effort to benefit humanity have characterized the American medical profession from the very date of its organization in 1847. The early volumes of transactions of the American Medical Association contain hundreds of references to discussions, reports, recommendations of vital concern to the public in the quality and efficiency of medical services."

The eighty-first Annual Session of the Missouri State Medical Association will convene in Jefferson City, May 2, 3, and 4, 1938. All sessions, with the exception of dinner and luncheon meetings, will be held in the House Chamber of the Capitol Building. Dr. J. H. J. Upham, Columbus, Ohio, President of the American Medical Association and Dean and Professor of Medicine of the Ohio State University School of Medicine, will be a guest speaker. Dr. George M. Curtis, Columbus, Ohio, Professor of Research Surgery at the Ohio State University School of Medicine, will also be a guest speaker.

The St. Joseph Clinical Society will hold its

(Continued on page 396)

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MISSOURI MEDICINE IN REVIEW

(Continued from page 390)

seventh annual spring clinic on April 13 and 14 at the Hotel Robidoux, St. Joseph. There will be no registration fee.

TEN YEARS AGO

The Buchanan County Medical Society, with H. J. Brumm, M.D., chairman of the publicity committee in charge, has reactivated a monthly radio program over station KFEQ in St. Joseph.

Evarts A. Graham, M.D., St. Louis, was presented with the cross of L'Ordre de la Legion d'Honneur at a ceremony at the Washington University School of Medicine on March 6.

Claude J. Hunt, M.D., Kansas City, will preside as president at the meeting of the American Goiter Association at its meeting in Chicago on May 7 to 9.

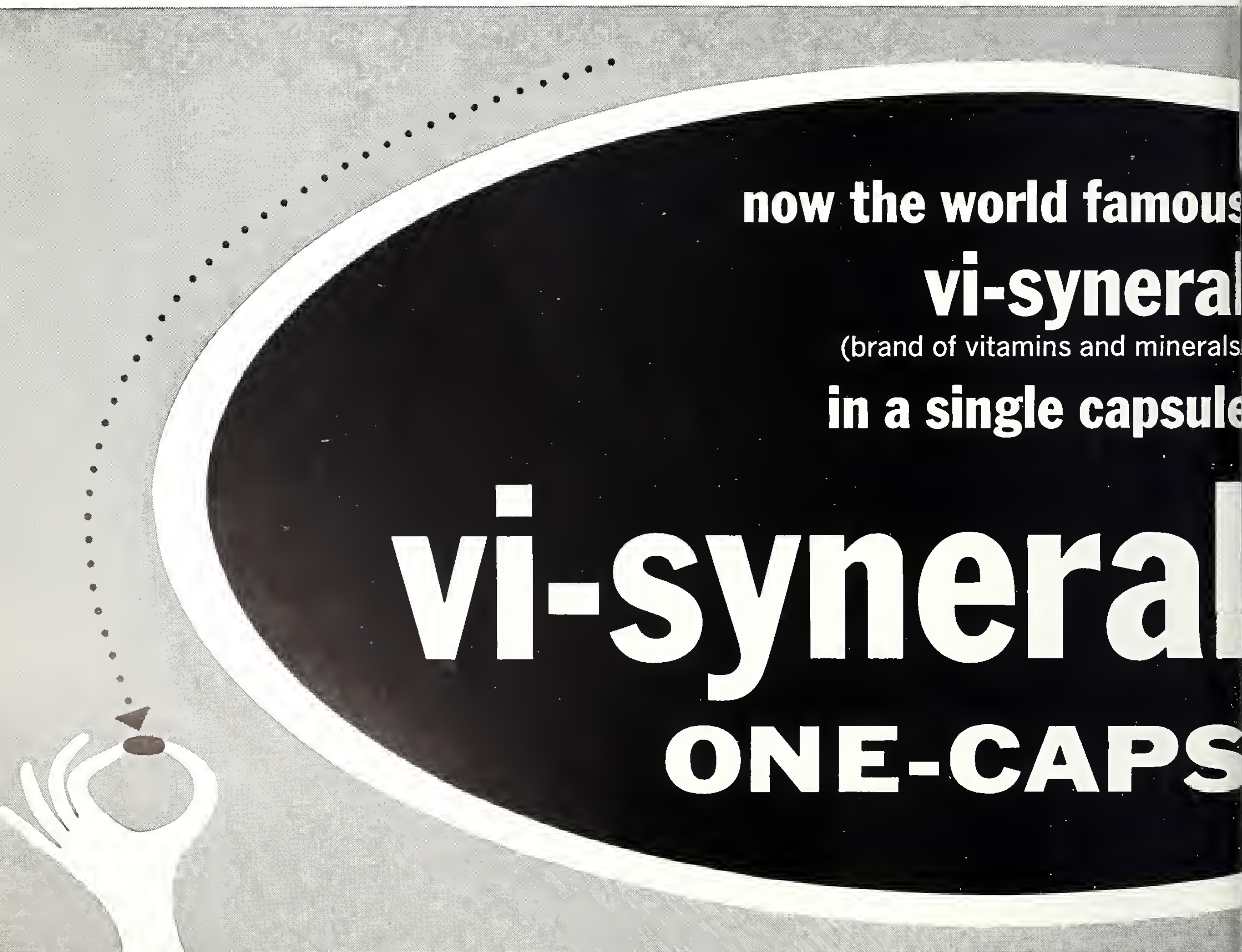
E. F. Hoctor, M.D., Farmington, was the guest speaker at a recent meeting of the Farmington Rotary Club and spoke on "Understanding Ourselves and Others."

Harold L. Gainey, M.D., Kansas City, has been elected secretary-treasurer of the Central Association of Obstetricians and Gynecologists.

The Clay County Medical Society met in regular session at Rugel's Cafe, North Kansas City, on February 24. Dinner was served to the Medical Society and the Auxiliary. Approximately thirty-two members and their wives were present. Drs. Robert H. Parker, J. E. McCormick and R. H. Duncan were responsible for the scientific program of the evening.

On Thursday night, February 24, the Marion-Ralls County Medical Society held a dinner meeting at the Mark Twain Hotel, Hannibal. Invitations to attend the session were sent to all members of the Second Councilor District. The program for the evening was presented by R. O. Muether, M.D., St. Louis, who gave a practical, informative discussion on "Diseases of the Liver."

A dinner meeting of the Pettis County Medical Society was held at the Bothwell Memorial Hospital, Sedalia on February 16. Guests present were members of the Saline and Henry County Medical Societies, and the Councilor of the District, Dr. R. W. Kennedy, Marshall, and the Field Secretary of the Missouri State Medical



Association, Ray McIntyre. Members from Benton and Johnson County Medical Societies who were also invited were unable to be present. Mr. McIntrye spoke on the present trend over the state toward the hyphenation of various county medical societies in an endeavor to promote more activity and better programs on the local level. There followed a discussion as to the possibility of combining several societies in this area. A motion was passed that the hyphenation of Henry, Pettis and Saline Counties be considered at respective county society meetings, and a report on any action taken forwarded to Dr. Kennedy by March 15.

BOOKS RECEIVED

Ciba Foundation Symposium on the Exocrine Pancreas, Normal and Abnormal Functions, by A.V.S. DeReuck, M.Sc., and Margaret P. Cameron, M.A. Little, Brown and Company, Boston. Price: $11.50.

Ciba Foundation Symposium on Pulmonary Structure and Function, by A. V. S. DeReuck, M.Sc., and Maeve O'Connor, B.A. Little, Brown and Company, Boston, 1962. Price: $11.50.

Ciba Foundation Colloquia on Endocrinology, Immunoassay of Hormones, by G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Margaret P. Cameron, M.A. Little, Brown and Company, Boston, 1962. Price: $10.75.

Ciba Foundation Symposium on Transplantation, by G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Margaret P. Cameron, M.A. Little, Brown and Company, Boston, 1962. Price: $12.00.

Ciba Foundation Symposium on Tumour Viruses of Mutine Origin, by G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A. Little, Brown and Company, Boston, 1962. Price: $10.75.

Ciba Foundation Symposium, Co-Ordinating Committee for Symposia on Drug Action on Enzymes and Drug Action, by J. L. Mongar, Ph.D., and A. V. S. DeReuck, M.Sc., D.I.C. Little, Brown and Company, Boston, 1962. Price: $12.50.

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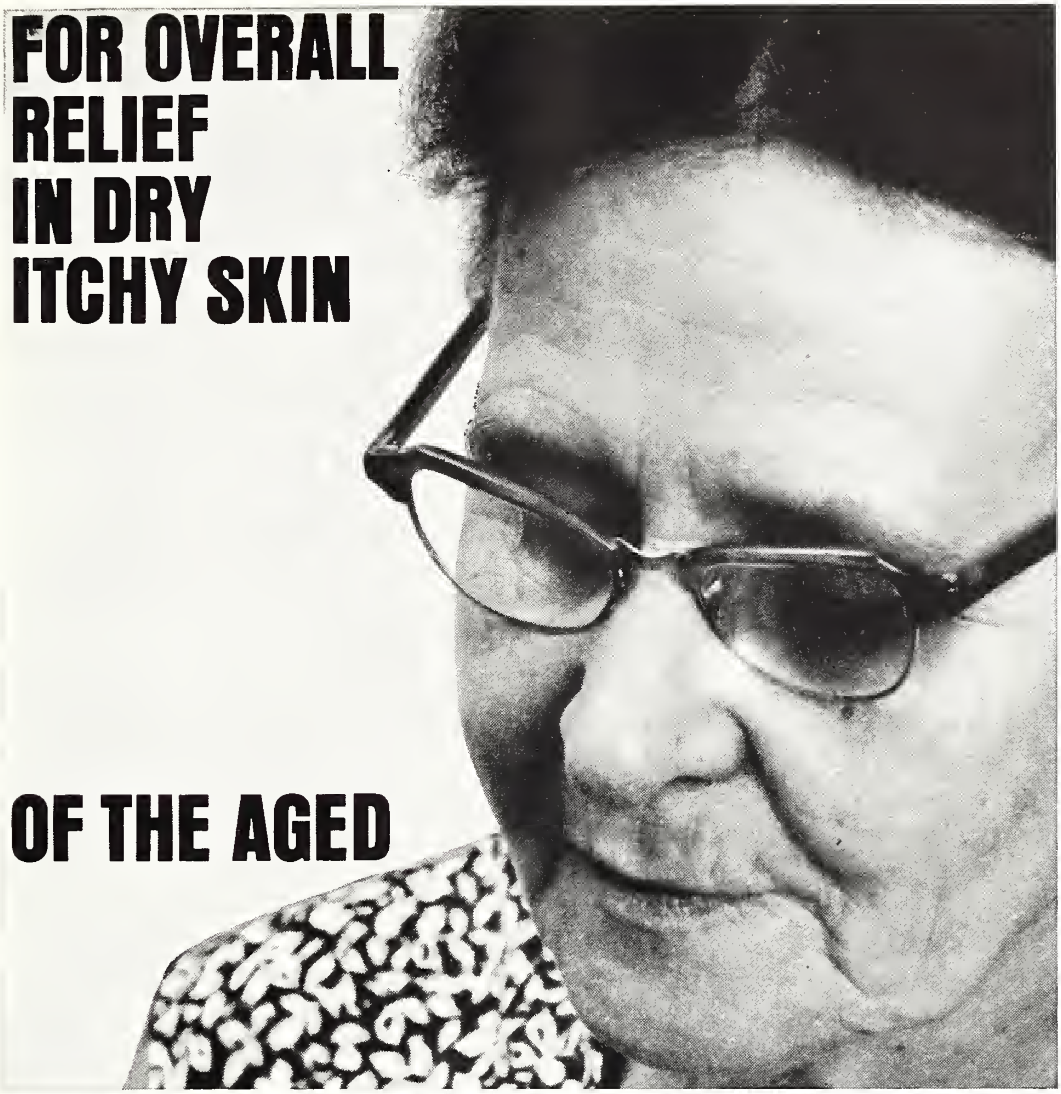

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1. Borota, A., and Grinell, R. N.: J. Amer. Geriatrics Soc., 10:413, 1962. 2. Spoor, H. J.: N. Y. State J. M., 58: 3292, 1958. 3. Lubowe, I. I.: Western Med., 1:45, 1960. 4. Weissberg, G.: Clin. Med., 7:1161, 1960. 5. Lieberman, W.: Amer. J. Proctology, 12:374, 1961. 6. Dick, L. A.: Skin, 1:341, 1962.

*Pat. Pend. T.M. © 1963 by Sardeau, Inc.

BOOKS RECEIVED

Your Weight and How to Control It, by Morris Fishbein, M.D., Editor, *Modern Home Medical Adviser and Popular Medical Encyclopedia.* Doubleday & Company, Inc., New York, 1963. Price: $3.95.

Malpractice Law Dissected for Quick Grasping, by Charles L. Cusumano, Member of New York Bar. Medicine-Law Press, Inc., New York, 1962. Price: $10.00.

Between Us Women, a Woman Doctor's Handbook on Pregnancy and Birth, by Dr. Laura E. Weber. Doubleday & Company, Inc., New York, 1962. Price: $1.95.

Doctors, Patients, and Health Insurance, the Organization and Financing of Medical Care, by Herman Miles Somers and Anne Ramsay Somers. Doubleday & Company, Inc., New York. Price: $1.95.

Correlative Neuroanatomy and Functional Neurology, by Joseph G. Chusid, M.D., Associate Director, Neurological Division, St. Vincent's Hospital, New York, Clinical Associate Professor of Medicine (Neurology), Seton Hall College of Medicine and Dentistry, Jersey City, New Jersey; and Joseph J. McDonold, M.D., Dean of the School of Medicine, American University of Beirut, Beirut, Lebanon, formerly Professor of Surgery, Columbia University, New York. Lange Medical Publications, California, 1962. Price: $5.50.

Ciba Collection of Medical Illustrations, Digestive System, Part II, Lower Digestive Tract, by Frank H. Netter, M.D. Published by Ciba. Price: $15.00.

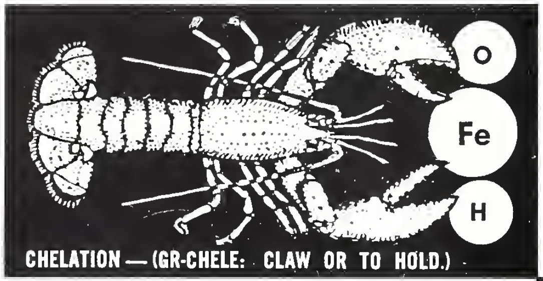
Ciba Foundation Study Group No. 12, Curare and Curare-Like Agents, by A. V. S. DeReuck, M.Sc. Little, Brown and Company, Boston, 1962. Price: $2.95.

Nutrition in a Nutshell, by Roger J. Williams. Doubleday & Company, Inc., New York, 1962. Price: $.95.

Ciba Foundation Study Group No. 13, Resistance of Bacteria to the Penicillins, by A. V. S. DeReuck, M.Sc., and Margaret P. Cameron, M.A. Little, Brown and Company, Boston, 1962. Price: $2.95.

Fundamentals of Voluntary Health Care, by George B. De Huszar, The Caxton Printers, Ltd., Caldwell, Idaho, 1962. Price: $6.00.

The Science of Dreams, by Edwin Diamond. Doubleday & Company, Inc., New York, 1962. Price: $4.50.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WASHINGTON

In a recent issue of the *AMA News* an editorial titled "Fundamental Flaws" discusses the present King-Anderson bill. In part, the editorial reports the following:

ECONOMICALLY UNSOUND

The bill would increase the social security taxable wage base from $4,800 to $5,200 and it would increase the tax rate by ¼ of 1 per cent. The money would not be set aside for the taxpayer, however, it would be deposited into the general treasury, and the so-called "trust fund" would be kept solvent by appropriations from the treasury.

The bill would not provide social security beneficiaries with the "right" to health care. Beneficiaries who are now over 65 will never make any contribution toward the program. These people—many of whom are well to do—would receive an estimated $35 billion in benefits under the program, all of which must be paid by younger workers. Benefits of the future will depend upon future taxpayers, who find themselves burdened with ever increasing social security taxes. Government estimates of the first-year costs of the program—$1.1 billion—are too low by about 100 per cent, insurance actuaries report, and future costs will be vastly greater. By 1983, the actuaries say, the costs will be $5.4 billion—an increase of more than 500 per cent.

GOVERNMENT CONTROL

The bill would interfere with and regulate medical practice and administration in the nation's hospitals. The authority to govern the administration of a federal program involving the expenditure of tax funds is both explicit and implied in the legislation, and the regulations of the secretary of Health, Education and Welfare would have the force of law.

The secretary would be explicitly empowered to set the terms under which hospitals participate in the program. Thousands of physicians would come under these regulations. Each hospital and nursing home would function under a "utilization review plan," and the secretary's dissatisfaction with the performance of anyone connected with the program could result in tightened purse strings or a terminated agreement.

The authors of the King-Anderson bill say it will provide services "consistent with the dignity and self-respect of each individual." Yet the HEW secretary would be empowered to examine hospital records, and he could engage a state government agency to help him. He could also arrange with private organizations to handle claims. One group after another would have access to the records of a patient, destroying the traditional privacy of the physician-patient relationship and the basis for all good medical care.

CHOICE LIMITED

The bill would severely limit the patient's free choice. In large print the bill says "free choice by patient guaranteed," but the small print says the patient may obtain services only from institutions or agencies that have agreed to the government's terms. The patient would not be permitted to choose a hospital not participating in the program. The patient whose personal physician is not on the staff of the hospital to which he is admitted would have to accept another physician.

The patient's choice of nursing home would be even more restricted, since only those controlled or affiliated with a hospital would qualify under the bill. According to Senate debate last year, only 500 of the 20,000 nursing homes in this country can meet this specification.

The bill offers an option of three hospitalization plans, but the option provision is another empty gesture. For each person must make his "choice" of plan before he becomes 65 (or before 1965 if he is already 65), and the selection cannot be changed. The beneficiary's advice and irrevocable decision is not likely to bear any relationship to his medical needs or his financial condition at the time of illness.

UNWARRANTED DEVIATION

The bill does not satisfactorily show a need for such legislation. The authors of the bill describe the aged as a separate class of citizens, impoverished and ill. Millions of elderly persons will not recognize this picture of themselves. The bill ignores the growing effectiveness of the Kerr-Mills Law and the fact that true hospitalization insurance is being purchased by nearly 70 per cent of the aged who want or need it. People of all ages should receive aid when they need it, but the costly King-Anderson bill would cover only 25 per cent of the average elderly person's health care costs.

Beyond its many specific faults, the real danger of the bill—which should be the concern of every citizen—is that it departs from the principle of providing cash benefits, not service benefits, to social security recipients.

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1. Prescribing Supplements of Dietary Fluorides, Council of Dental Therapeutics, J.A.D.A., 56:591, April, 1958.
2. Fluoride Compounds, Accepted Dental Remedies, 27th Ed.:139, 1962.

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Across
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Kerr-Mills Implementation

The following bills have been introduced in the Missouri Legislature:

S. B. 140 and H. B. 254, amend the present Kerr-Mills Law regarding the needy so that inpatient hospital care may be furnished to persons who are certified by competent medical authority as requiring hospitalization for serious illness or injury for which outpatient care will not suffice, provided, however, that such hospitalization shall not include those persons admitted to a hospital for elective surgery, diagnostic studies and chronic conditions. In addition, certain dental care and prescribed drugs and medicines may be provided. It is estimated that the cost in state funds will be $4,322,320 for the biennium. The total program, including federal funds, will amount to about $10,000,000.

S. B. 142 and H. B. 255 provide that an Advisory Committee to the director of welfare regarding Kerr-Mills shall consist of 11 members, including the Chairman of the Senate Committee on Public Health and Welfare, Chairman of the House of Representatives Committee on Social Security, at least three physicians, and others shall be persons interested in hospital administration, nursing, dentistry and pharmacy.

S. B. 148 provides that the Division of Welfare shall establish a program for the "near needy." The program shall consist of (1) inpatient hospital care for serious illness or injury for which outpatient care will not suffice; and (2) post-hospitalization nursing services not to exceed 30 days after release from the hospital under the direction of a physician who certifies that private duty nursing care is needed. It is estimated that the cost in state funds will be $500,000 for the biennium, plus an equal amount of federal funds, a total cost of $1,000,000.

Joint Committee Report

These bills grew out of the report of the joint committee for the study of the problem of providing medical assistance to the senior citizens of the State. This committee was appointed pursuant to House Concurrent Resolution No. 24 of the Seventy-first General Assembly. Senator William J. Cason, Clinton, was chairman of the committee, and Representative James W. Williams, St. Joseph, vice chairman.

Among recommendations of the committee were: That old age recipients be allowed to earn additional funds not to be deducted from the grant; that the Old Age Assistance grant be increased to $70.00 per month; that the program of hospitalization be enlarged so that a person on Old Age Assistance need not be in a "medical emergency" before he can be hospitalized; persons in a licensed nursing home be granted a minimum of $80.00 per month; that some program of dental services be made available; that some of the needed out-patient drugs upon prescription of a physician should be established by the Division of Welfare; benefits to the totally bedfast person be increased to $110.00; some medical assistance be given persons not on Old Age Assistance but who meet with catastrophic illnesses; that the Division of Welfare be given authority to limit the scope of programs recommended if it appears that it is becoming financially impossible or impractical for the state to continue; that the programs recommended be expanded toward ultimate solution as quickly as experience and existing finances will permit; that free choice of physician, dentist, hospital, druggist or other person offering services be maintained; that an interim committee composed of five Senators and five Representatives be established to study and review the accomplishments and report to the next General Assembly; that the present Advisory Committee working with the Director of the Division of Welfare be increased to 11 with the chairmen of the Senate and House committees which under existing rules considers legislation in the area of medical care for the aged being on the committee.

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References: (1) Moyer, J. H., and Heider, C.: Am. J. Cardiol. *9*:920 (June) 1962. (2) Brest, A. N., and Moyer, J. H.: Pennsylvania M. J. *63*:545 (Apr.) 1960. (3) Hutchison, J. C.: Current Therap. Res. *4*:610 (Dec.) 1962. (4) Berry, R. L., and Bray, H. P.: J. Am. Geriatrics Soc. *10*:516 (June) 1962. (5) Feldman, L. H.: North Carolina M. J. *23*:248 (June) 1962.

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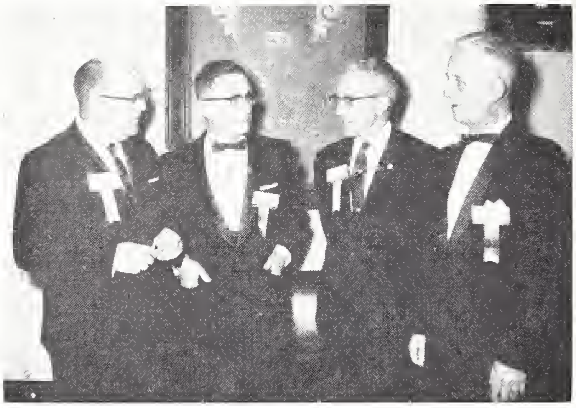
Missouri Academy of General Practice

The 15th Annual Scientific Assembly of the American Academy of General Practice is now history. This outstanding affair was held at Chicago, McCormick Place, April 1 to 4, 1963, with the Congress of Delegates meeting at the Palmer House, March 30 through April 1.

As might be expected, and probably was, the attendance did not match that of the 1962 session held in that intriguing spot known as Las Vegas. However, this 15th Annual Meeting will go down as one of the outstanding annual sessions to date.



Drs. Gray, Pearse, Carrier and Metz ready for the Delegates' dinner.

A number of important decisions were reached by the Congress of Delegates, one of which included the rejection of the creation of a Board of General Practice. This particular issue had been given considerable attention by all of the state chapters prior to this 1963 AAGP Annual Session. The Missouri Chapter had polled its membership on this issue with the returns showing the membership against the creation of a board at this time. However, the percentage against the board over that for the board in the Missouri Chapter was not large. The two Missouri Academy Delegates; namely, Dr. Charles O. Metz, St. Louis, and Dr. Roy W. Pearse Jr., Nevada, went to the AAGP session uninstructed by the Missouri Chapter as to how they should vote on this board issue.

Delegate Metz, Congressman Hall and Delegate Pearse confer.

A group of MAGP members get together.

MAGP President Gunn reading "The Word."

Dr. James D. Murphy, Fort Worth, Texas, President of the American Academy, in his President's address to the opening session of the Congress of Delegates on Saturday, March 30, stated that in his opinion the creation of a Board of

(Continued on page 464)

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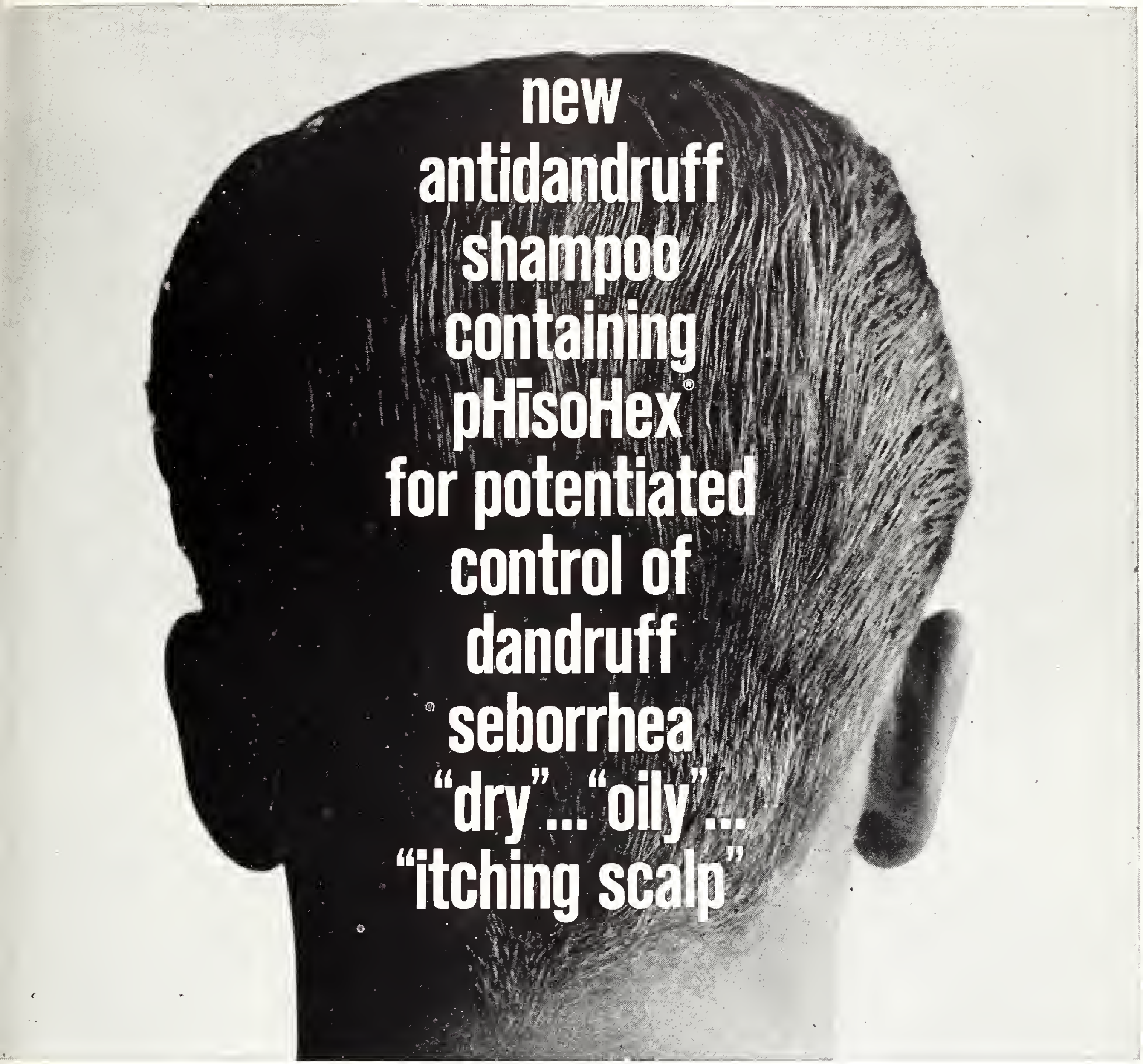

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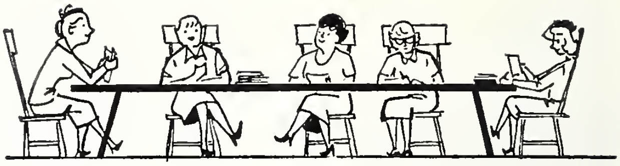

Our 38th Annual Convention has just ended and I have accepted the gavel from Venus Schattyn. How fortunate I am to have served my year of apprenticeship with her. Her dedication to Auxiliary in every phase, her knowledge and interest in our activities and aims, and her personal charm have made her an outstanding leader. I am deeply indebted to her, and to many others, for their advice and encouragement; I can only hope that my efforts will be as effective.

Mrs. L. S. Crispell

It will be my privilege to work with the following officers during this year: Mrs. Delevan Calkins, President-Elect; Mrs. James K. Ritterbusch, Mrs. Maurice A. Diehr, Mrs. Glenn O. Turner and Mrs. Carl R. Ferris, the four Vice Presidents; Mrs. C. Stuart Exon, Recording Secretary; Mrs. John M. Williams, Treasurer; Mrs. Harry Harkness Jr., Auditor; Mrs. John D. Maddox, Corresponding Secretary; and Mrs. Robert H. Stewart, Parliamentarian. We are indeed proud of these women who give their time and energies to Auxiliary so generously.

A tremendous amount of time is spent in preparation for our Annual Convention, and this year Jackson County made every effort to make our visit to Kansas City an exceptionally fine one. We appreciated their thoughtfulness and attention to every detail.

It was our pleasure to have Mrs. William G. Thuss, our National President, and Mrs. Elias Margo, President of the Southern Medical Auxiliary, with us for all the sessions. Mrs. Thuss was our speaker at the Monday luncheon and Mrs. Margo spoke at the Tuesday luncheon. We are grateful to them for the wisdom and inspiration they give in their presence and messages.

A great deal was accomplished at our business sessions. A new committee was added—that of "International Health Activities." This has been a national project that up until now we have not participated in. In connection with the longstanding interest of the AMA in international health and the increase in excellence in the practice of medicine, this program is a service to the world-wide medical community. The Committee on Radio, T.V. and Films was discontinued as it was felt that there was over-lap here and that the other committees obtained their own material. No decision was made as to the disposition of the funds in the Medical Student Loan Fund as it was the decision of those present that more time was needed to present all the facts to the counties. It was also voted that we "endorse and urge the widest possible public support by all agencies and organizations" of the Missouri bills for Mental Health and other priority programs. These programs can only be implemented through the passage of Bill No. 4 which raises the sales tax to 3 per cent. The bill has just gone to the Senate with several amendments so the fate of the programs is in balance. The Fall Conference will be in Joplin on October 23 and 24.

During the morning sessions, the officers, committee chairmen and county presidents gave their impressive reports. Another time, I will go into more detail about some of the work they have been doing.

Our final luncheon was held on Tuesday noon. There is always a great air of expectation about this event as it is not only the time for installations of officers, but also the time when the cup donated by Dr. and Mrs. Charles T. Shepherd is awarded to the "Most Outstanding Auxiliary" of the year. This year it was presented to our largest, and hostess Auxiliary—Jackson County. Mrs. Louis Forman, the President, accepted the award for the highest number of points achieved under the Point System. Special awards were also received for outstanding contributions to AMA-ERF by the Mineral Area Auxiliary and Jackson County.

We have returned from this meeting with renewed faith inspired by the work of each individual member of our organization. The work you do in your county increases the effectiveness of the entire program. Each individual Auxiliary's effort on the local level, no matter how small, does its part toward strengthening Missouri's contribution.

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The Role of Surgery in the Management Of Cancer of the Thyroid, Potential and Proved

The changing attitude toward surgery in the management of cancer of the thyroid is discussed, with various views and reports being reviewed.

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This paper was presented at M.D. Day, Nov. 9, 1962, at the University of Missouri School of Medicine, Columbia.

THE PROBLEM of neoplasm of the thyroid may be stated briefly in the form of two questions:

> Which enlargements or nodules of the gland are malignant or potentially so?
>
> What is the extent of treatment needed to control proven disease?

Many criteria for the potentially malignant thyroid nodule have been suggested. Thus, Searls[25] has suggested that a thyroid nodule in a female patient who is beautiful is likely carcinoma. He warns, however, that this criterion cannot be used by older physicians since they are more apt to think of all females as beautiful.

Two separate currents of development must be considered in discussing the role of surgery. On one hand, there is the stream of events occurring in the study of cancer generally and cancer of the thyroid in particular. On the other, there is the thread of change in the discipline of surgery itself. In the intermingling of these currents can be seen the adaptation of the role of surgery.

Carcinoma of the thyroid occupies a unique position among neoplastic diseases. Although not a frequent carcinoma, it is an intriguing one.

It generally has a long, protracted course; five year cures are often meaningless. Follow-ups must be for longer periods up to 20 years.

It is less malignant in the young rather than more malignant as most cancers are.[11] Few die of cancer of the thyroid under the age of 40 even though the disease is frequent in that age group.

There are no untreated series for comparison as in other neoplasms.

It is not an entity but a series of rather dissimilar diseases not all of which may have a lethal potential. Thus, Crile has likened some cancers of the thyroid to endometriosis.[10]

It often seems to be under biological control and under the influence of TSH. There is increasing evidence for the endocrine relationship of certain thyroid cancers (table 1). Nodular goiters will often respond to thyroid feeding by either disappearing, becoming smaller or at least staying the same size.[8, 15] Induced carcinomas in animals and carcinomas in man, along with metastases, may shrink when thyroid is taken.[8, 27] Also, suppression of thyroid function by thyroidectomy, radioactive iodine or thiouracil will often stimulate carcinomas both in the experimental animal and man.[19, 22] This seems due to the resultant increase in TSH.

TABLE 1
ENDOCRINE RELATIONSHIP OF CERTAIN THYROID CANCERS

1. Response of Nodular Goiters to Thyroid Feeding.
2. Response of Cancers of the Thyroid to Thyroid Feeding.
3. Stimulation of Growth of Cancers by Suppression of Thyroid Function.
   a. Thyroidectomy.
   b. I^{131}
   c. Thiouracil.

Thyroid cancer may be divided into three major groups, each of which has a reasonably characteristic behavior.[30] It is recognized that there is some overlap and also some differences within each group (table 2).

(1) *Papillary Carcinoma.*—These make up about 50 to 60 per cent of all thyroid cancers. They are slow growing lesions which are often readily curable, and occasionally have multicentric origins.[1] They occur at any age, but are frequent in children and young adults. They metastasize primarily to lymphatics and nodes of the neck, and rarely to distant sites.

(2) *Follicular Carcinoma.*—These make up from 20 to 30 per cent of thyroid cancers. They occur in a somewhat older age group, and are fairly slow growing. They metastasize primarily by vascular channels to the lungs and bones.

(3) *Anaplastic Carcinoma.*—From 10 to 20 per cent of all thyroid cancers and occur in the usual cancer age group. They are rapid growing and lethal.

The development of neoplasia of the thyroid may in good part be under biologic control (fig. 1). Increased TSH production from whatever cause leads to hyperplasia which can then go on to benign or malignant neoplasia. Initially the carcinomas may be endocrine dependent but, after passage of time, this trait may be lost and they become autonomous carcinomas in the usual sense. It seems most likely that carcinomas come directly from the hyperplastic state rather than from benign neoplasm. This then is the current of development in cancer of the thyroid.

TABLE 2
CLASSIFICATION OF CANCER OF THE THYROID

1. Neoplasms of Epithelial Origin.
   a. Papillary Adenocarcinoma.
   b. Follicular Adenocarcinoma.
   c. Anaplastic Carcinoma.
2. Neoplasms of Supporting Tissues.
   Sarcomas, etc.

The discipline of surgery itself has proceeded through a stage which may be called the extirpative phase.[3] "Surgery as a breathtaking technical binge has come to an end."[4] The gross excision of disease or neoplasm has in good part reached its zenith and come down again. The physiologic limits of the patient and the sociologic limits of the community have been reached for the present. The stage at the moment may be called the reparative phase. The all or none approach has diminished. There is an emphasis on restoration of altered physiology. Logical approaches are replacing dogmatic rules. The vagotomy and pyloroplasty or hemigastrectomy are moving the subtotal gastrectomy off the stage.

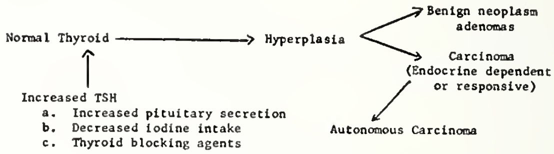
Normal Thyroid
Hyperplasia
Benign neoplasm adenomas
Carcinoma (Endocrine dependent or responsive)
Autonomous Carcinoma
Increased TSH
a. Increased pituitary secretion
b. Decreased iodine intake
c. Thyroid blocking agents

Fig. 1. Biologic Control of Neoplasia.

The problem of mutilation versus potential cure is being weighed heavily. Awaited now is the coming of the replacement era. Such is the current of development in surgery.

Going to the mainstream of patients with thyroid disease one sees how these flows have influenced the approach to thyroid neoplasia.

POTENTIAL CARCINOMA

Cancer of the thyroid is a disease of nodularity. Thus, a potential neoplasm is to be found in the diseased gland, in the nodule or in the nodular goiter. For this reason, the routine removal of all thyroid nodules has been suggested (table 3). Arguments for such an approach have been summarized by Sokal[24] and include: 4 to 17 per cent of nontoxic nodular goiters are malignant, and with single nodules this may be even higher; it is impossible to differentiate without exploration and biopsy; nodules which are benign initially may become malignant over a period of time; the mortality and morbidity is extremely low with this. Arguments against this approach include: The statistics from various centers are highly selective and not representative; nodular goiters are quite common, but thyroid cancer is rare, so only a small percentage could possibly be malignant;[24] benign glands can be differentiated from cancer with considerable accuracy;

goiters or adenomas rarely become malignant; moderate delay in surgical treatment does not change the outcome anyway.

Thus, as pointed out by Crile,[7] some believe and can prove statistically that nodules in the thyroid are of no consequence. Others believe and can show statistically that all thyroid nodules should be removed. Some believe and can prove by statistics that some nodules should be removed and others should not. All of these approaches are true to some extent.

There are nodules, however, that one can have good reason to be afraid of, and perhaps the problem can best be approached from this standpoint. Table 4 gives a listing of what thyroid nodules are to be feared and which characteristics are most likely to be associated with malignancy. Carcinoma has been found in about 1 per cent of patients operated upon for thyrotoxicosis. There seems to be an increased incidence of carcinoma with Hashimoto's thyroiditis. Also, a thyroid nodule, in a patient who has had previous irradiation to the neck for other reasons, should be suspect. The use of such criteria should increase the yield of carcinomas and decrease the removal of adenomas or colloid nodular goiters.[5, 17] Anyone embarking on a program to use such indications for operation, to observe nodules or to try thyroid hormone suppression must insist, however, on rigid follow-up with frequent observation.

TABLE 3

THE PROBLEM OF MALIGNANCY IN NODULAR GOITER[24]

Proposal: **Routine Removal of All Nodular Goiter.**

Arguments for:

1. From 4 to 17 per cent of nontoxic nodular goiters are malignant.
2. It is impossible to differentiate without operation.
3. Even though benign initially, they may become malignant.
4. The mortality is extremely low for such an approach.

Arguments Against:

1. The statistics reported from centers are highly selected and not representative.
2. Nodular goiter is common while thyroid cancer is rare. Therefore, only a small percentage could be malignant.
3. Benign can be differentiated from malignant with considerable accuracy.
4. Benign goiters rarely undergo malignant transformation.
5. Moderate delay in surgical treatment does not change the outcome anyway.

TABLE 4

WHAT THYROID NODULES ARE TO BE FEARED?

1. All firm or hard discrete nodules—especially in patients under fifty years of age or in children.
2. Rapid or recent enlargement of a nodule or nodular goiter.
3. Irregular nodules.
4. Adherence to surrounding tissues.
5. Lymph nodes or nodules in the neck adjacent to the thyroid, particularly the Delphian node.[5]
6. A hard, diffusely involved gland.
7. Laryngeal paralysis with nodular goiter.
8. Pain with nodular goiter.
9. Compression.
10. Dysphagia with nodular goiter.
11. Toxic nodular goiter.
12. Nodule with no uptake of RaI.
13. Nodule in an adult male.
14. Failure to decrease in size with thyroid medication.

Thus, the primary role of surgery in potential thyroid cancer is not just the removal of nodules, but to help decide whether or not they need to be removed. Prevention of cancer by wholesale nodule removal may not yield great dividends. The diagnosis, of course, ultimately depends on surgical exploration with excision or biopsy. Needle biopsy, although useful with thyroiditis, does not rule out cancer in the diseased gland.

Proven Carcinoma

There would be little disagreement that the initial treatment of resectable carcinoma of the thyroid should be surgical. Complete removal of the primary lesion is acceptable to all. The only disagreement would be in the lesion limited to a single lobe. Should only the involved lobe and isthmus be removed by a total lobectomy or should a total thyroidectomy be done? There are proponents of each approach and all have reasonable data.[2, 23, 29]

The principle of complete removal of the primary lesion and its primary zone of spread as is done in many other neoplasms is more difficult with the thyroid. The primary lymphatic pathways are not only to the jugular chain, but to the pretracheal nodes, the retropharyngeal nodes and subdigastric nodes. Thus, an en-bloc dissection in the usual sense is impossible.

All would again agree that obvious metastatic disease in the nodes of the neck should be removed along with the primary. In doing this, some would remove the sternocleidomastoid muscle and jugular vein in a standard radical neck dissection.[20, 23] Others would leave this muscle and do a modified dissection.[9, 10]

All would not agree, however, that a node or neck dissection should be done without overt disease and for a statistical possibility of occult nodal involvement. Those that favor it have found positive nodes in 40 or more per cent of papillary lesions.[20, 23] Others have felt that the incidence is not high enough to warrant prophylactic dissection.[6, 9, 10, 30]

Thus, there is no standard approach to all cancer of the thyroid nor should there be nor can there be. The differences in approach are not at great variance. They are determined more by the variability of the disease rather than achieved results.

A basic approach for the various lesions would be as follows:

Papillary Carcinoma in the Young:

1. Total lobectomy if the disease is limited to a lobe.
2. Total thyroidectomy if there is extension to both lobes or definite multiple lesions.
3. Neighboring nodes removed.
4. Neck dissection if positive nodes are present.
5. Thyroid feeding—3 to 4 grains a day for life. This is used not only to suppress persistent disease if present but primarily to decrease TSH stimulation of the remaining gland and further neoplasia.

Papillary Carcinoma in the Over 40-50 Age Group:

1. Total lobectomy if the disease is limited to the lobe.
2. Total thyroidectomy if there is extension to both lobes or definite multiple lesions.
3. Neighboring nodes removed.
4. Neck dissection in all because of the increased virulence of the disease in this age group.
5. Thyroid medication—3 to 4 grains a day for life.

Follicular Carcinoma:

1. Total thyroidectomy in all. This is best for two reasons:
   a. to remove the primary. This lesion may extend into the other lobe.
   b. ablation of function so that I^{131} can be used for metastatic disease. Follicular carcinoma is most apt to have functioning metastases. These can be treated with radioactive iodine and will pick up more iodine when no endogenous thyroid is present.
2. Neck dissection with palpable or enlarged nodes only. Lymphatic metastases are less frequent.
3. Thyroid medication—3 to 4 grains a day for life.

Anaplastic or Undifferentiated Carcinoma:

1. Many are unresectable when first seen.
2. Total thyroidectomy when possible has been helpful and curative in some.
3. Some palliation may be achieved by removing disease from the top of the trachea if nothing else. This will preserve the airway for a longer time.
4. Lymph node dissection is futile.
5. External irradiation is used but often is not helpful.
6. These cancers are usually autonomous and not under biologic control. Thyroid medication is not helpful.

TABLE 5

FIVE YEAR SURVIVAL—CANCER OF THE THYROID

	Total Cases	*Papillary Per Cent*	*Follicular Per Cent*	*Undifferentiated*
Fragell and Foote	**215**	**79**	**29**	
McDermott & Cope	**190**	**73**	**71**	**17**
Crile	**107**	**94**		
Beahrs and Woolner	**136**	**97**		
Pemberton	**447**	**81**		**26**
Hare & Salzman	**198**	**79**		**21**

Papillary Carcinoma—20 year survival—45 per cent
Follicular Carcinoma—20 year survival—24 per cent

Table 5 shows a comparison of survival rates from various groups with different types of thyroid cancer without regard to therapy.[12] The five year survival is better than 80 per cent in all groups for papillary carcinoma but by 20 years, it has fallen to 45 per cent. The survival with follicular carcinoma is not as good and by 20 years has fallen to 24 per cent. The five year survival for anaplastic or undifferentiated carcinoma is routinely poor. The primary determinant of survival seems to be the biologic potential of the tumor.

Treatment is necessary and does enter into the determination of survival. This is still a potentially lethal disease in most cases. Thus, the role of surgery in proven carcinoma of the thyroid is adequate, but not necessarily radical removal of the disease and its spread. Carcinoma of the thyroid is a number of diseases, each of which requires treatment tailored to its stage of development and potential.

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(Continued on page 444)

J. S. SANDERS, M.D., *Jefferson City,* and
J. M. MARTT, M.D., *Columbia*

Pulmonary Function in "Farmer's Lung" And Related Conditions

"FARMER'S LUNG" is a clinical syndrome which has been recognized with increasing frequency in recent years. The first reported case of this disease was described by Campbell in 1932.[1] The cases he reported were in agricultural workers with a history of sudden onset of fever, cough, cyanosis and dyspnea following exposure to moldy hay. Further reports of a similar illness were published during the next decade, including a comprehensive review in 1936 by Fawcitt.[2] These cases also occurred in England, this time involving men who had inhaled dust from moldy hay while harvesting grain. The etiology of the syndrome is still unknown. Many authors, particularly in the early reports of this disease, have felt that the condition is a primary bronchomycosis due to Candida albicans.[3, 4] This is because of the growth of this organism from sputum of many patients with this disease. One author has reported the incidence of positive sputum cultures for Monilia as 50 per cent.[5] However, the contention that Monilia is an etiologic agent has been disputed, as this organism is frequently found as a saprophyte in normal sputum.[5, 6] Proponents of the theory that "Farmer's Lung" is actually broncho-moniliasis, point out the unusually high incidence of positive sputum cultures plus the fact that somewhat similar illnesses have been reported in patients exposed to Monilia-containing dust from other sources than moldy hay.

Etiology, clinical manifestations and pulmonary function studies of "Farmer's Lung" are discussed together with a case report and comparisons with related conditions.

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Castellani, in 1927, reported a similar, though milder, respiratory illness called "teataster's cough" in workers exposed to dust from dried tea leaves in Ceylon.[7] Candida albicans was cultured from the sputum as well as the tea leaves. More evidence, however, has accumulated in recent years to suggest that this may be a nonspecific reaction to a variety of molds in a hypersensitive person. The roentgenologic findings are described in a comprehensive review by Dickey and Rankin in 1958.[5] Lung biopsies were performed in eight of their cases, with abnormal findings in six. The typical picture is that of an acute granulomatous interstitial pneumonitis with a predominance of epithelioid cells. Lymphocytes were also present, and a few well formed tubercles without caseation were seen.

The clinical findings in this condition vary with the duration of exposure and presumably with the degree of hypersensitivity exhibited by the patient. Fuller has described three stages.[6] The first stage occurs after minimal exposure and is described as a "feverish cold" with a severe cough which improves within a few days. The second stage is related to repeated exposure over a period of two to three months and is associated with a more severe cough, with fever, cyanosis, marked dyspnea and weight loss. It is this stage that is usually recognized by the clinician. The onset is usually abrupt, within 24 hours after heavy exposure to dust from moldy hay. As noted, the exposure may occur during the threshing of grain or may appear with any exposure in a closed area where the hay is being moved, as in feeding of cattle or sweeping the floor of a barn or hayloft. The third stage is less well defined and is related to chronic exposure over a period of many years. It is suspected that exposure of this type over a long period, presumably in patients who do not exhibit an acute hypersensitivity, will result in pulmonary fibrosis and emphysema.

Typical roentgenologic and laboratory findings associated with the acute phase of this disease include (1) appearance of a diffuse bilateral interstitial pneumonitis which sometimes is patchy in distribution but at other times presents a miliary appearance. A feature occasionally of value in distinguishing the condition from miliary tuberculosis is the predominance of involvement of the lower two thirds of the lung fields with relatively clear apices.[8] (2) The finding of Monilia or another fungus, such as Aspergillus, in the sputum in a high percentage of cases.[9] (3) A negative tuberculin skin test. This skin test appears to be negative in an unusually large number of reported cases and a temporary anergy to intracutaneous tuberculin has been suspected.[3, 8] In one series, vaccination with BCG during the course of the illness did not result in conversion of the skin test from negative to positive.[3] In the case reported here the first strength PPD was negative and second strength was 1+ during the acute phase of the illness. An intermediate strength PPD was positive six months after the acute illness.

Reports of pulmonary function studies in patients who have had this disease are meager. Dickey and Rankin do not list results of their studies, but state that there is a striking reduction in pulmonary diffusing capacity during the acute phase of the illness. Later, ventilatory studies revealed hyperinflation with decreased total vital capacity and increased residual volume. A "moderate reduction" in maximum breathing capacity was also reported. The present report is intended to summarize the previously reported findings in "Farmer's Lung" and closely related conditions and to add a report of a case in which extensive ventilatory studies, as well as diffusion studies, were performed over a period of six months following the acute illness.

CASE REPORT

A 49 year old, white, male dairy farmer was admitted to Memorial Community Hospital in Jefferson City, Missouri, on June 23, 1961, with a history of cough, fever, chills, severe dyspnea on exertion and weight loss of four weeks' duration. The fever and chills had decreased in severity since the onset of his symptoms, but his dyspnea had been persistent and he had lost 15 pounds in the four week period prior to admission.

Review of the patient's past history revealed that he had worked as a laborer on a dairy farm for many years. For approximately two years he had noted transient episodes of shortness of breath, cough and headache when working with moldy hay. This usually necessitated his leaving the closed area, where this type of feed was stored, for a rest period of approximately 30 minutes. He would then be able to resume his normal activity. He stated that this occurred only when working with moldy hay and was not present when working with dry, fresh hay. At the time of onset of his acute illness four weeks prior to admission, he was frequently exposed to what he described as "unusually moldy hay." This was because of the nature of soybean hay which has thick stalks and does not dry out rapidly. In addition, the material had been stored in a hayloft after laying in the fields in damp, rainy weather for sometime. The patient's exposure consisted of grinding the hay, along with oats and corn, in a machine, for use as feed. This was performed in a poorly ventilated area. The material was then stored in a shed from which the patient fed the cattle twice daily.

The patient denied a history of previous pulmonary or other serious illness at any time. He had always performed hard labor and had had no difficulty performing the various jobs assigned to him before his present illness. The patient did not smoke cigarettes but frequently chewed tobacco.

Physical examination on admission revealed a thin, middle aged, white male in moderately severe respiratory distress. The temperature on admission was 101.6 F. orally, the pulse 110 and respirations 44. Blood pressure was 115/75. Examination of the skin revealed a patchy, pruritic, erythematous rash, presumably a subsiding urticaria, secondary to a single penicillin injection administered one week before admission. There was minimal cyanosis of the nail beds without clubbing. The patient's respirations were rapid and shallow and examination of the lung fields revealed diffuse fine and coarse inspiratory rales. The heart rhythm was regular and no murmurs were audible. The remainder of the examination was within normal limits.

Laboratory data: Admission chest x-ray revealed a diffuse interstitial infiltration throughout both lung fields which seemed to be somewhat more prominent on the right (fig. 1). Routine hematologic studies were normal. Urinalysis was normal except for 1+ proteinuria at the time of admission. Sedimentation rate was 35 millimeters in one hour. Numerous sputum and blood studies were done to rule out an infectious cause for the patient's symptoms. Agglutinins for typhoid, paratyphoid, brucella and proteus OX-19 were normal. Multiple sputum smears for acid fast bacteria and histoplasma were negative. Complement fixation tests for histoplasmosis, blastomycosis and coccidioidomycosis were negative. Three sputum cultures revealed the presence of Candida albicans. Blood cultures were negative for growth of bacteria or fungus. A right scalene node biopsy revealed reticulo-endothelial hyperplasia. Bronchoscopy revealed moderate erythema of the bronchi and the presence of thick, white, tenacious sputum. Cultures and cytologic examination of this material were negative except for minimal growth of proteus vulgaris.

Hospital course: The patient was at first treated with oxygen by nasal tube and strict bedrest. He received no antibiotic therapy at any time, other

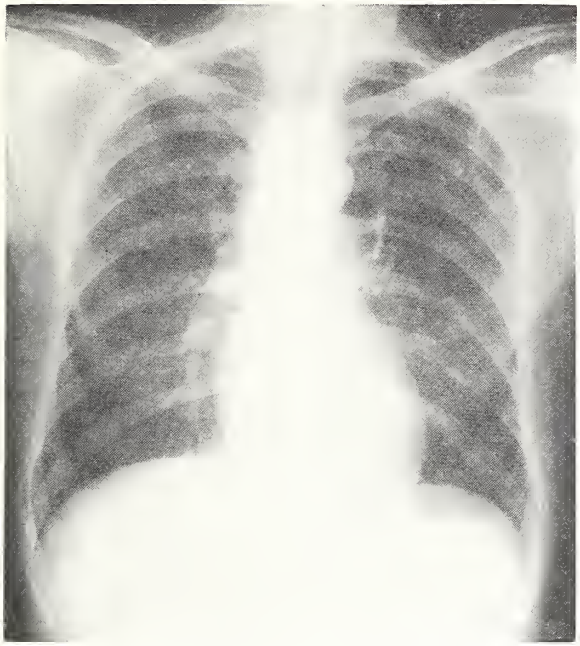

Fig. 1. Roentgenogram of the chest taken one day after admission.

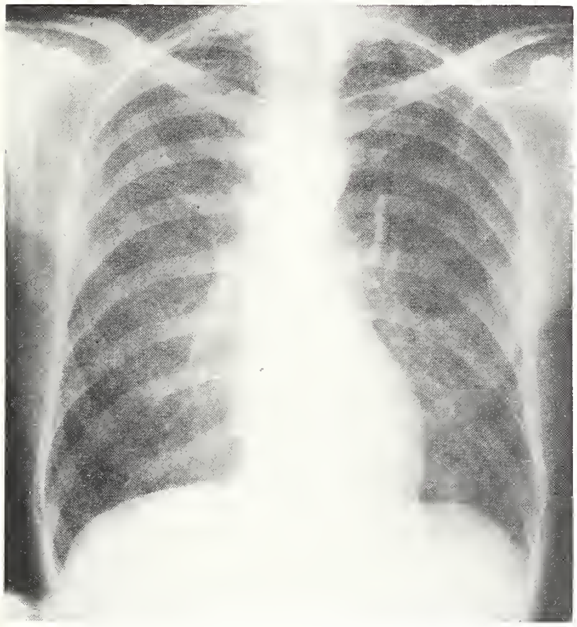

Fig. 2. Roentgenogram of the chest taken on twenty-fifth hospital day.

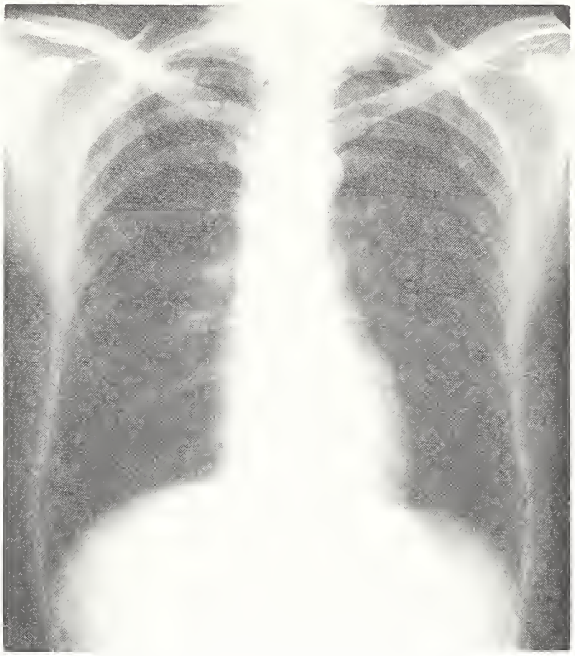

Fig. 3. Roentgenogram of the chest taken ten weeks after the admission film.

than the single injection of penicillin given prior to admission. Despite the lack of specific therapy, the patient showed gradual improvement. He had no temperature elevation after the seventh hospital day and his pulse and respiratory rate gradually decreased. During the last week of his hospitalization respirations were between 20 and 30 and the pulse between 60 and 80 per minute. A chest film on July 19, 1961, showed improvement (fig. 2). Six weeks later, there was marked clearing of the inflammatory process (fig. 3). An electrocardiogram during the admission was normal, as were sinus x-rays. Pulmonary function studies were performed prior to discharge and are reported separately. The patient was discharged on the 34th hospital day. He was completely asymptomatic at this time.

Discussion

Although a lung biopsy was not performed on this patient, it is felt that the findings on history, physical examination and laboratory studies conclusively establish the diagnosis of "Farmer's Lung." Findings of importance in establishing the diagnosis in this patient were (1) a classical history of repeated exposure to moldy soybean hay; (2) the sudden onset of the acute febrile illness with cough, cyanosis and dyspnea, so severe that oxygen was necessary during the first 48 hours of the patient's hospitalization; (3) the typical roentgenologic findings on chest x-ray; (4) negative sputum and blood studies for a variety of pathogenic bacteria and fungi; (5) the presence of Monilia in the sputum; (6) the striking improvement, both clinically and roentgenologically, over a period of three or four weeks after withdrawal from exposure to the hay and without the use of antibiotics or other specific therapy. It is also possible that the slight change in tuberculin sensitivity over a six month period after the onset reflects a temporary anergy to intracutaneous tuberculin. Temporary anergy may also occur in acute fulminating tuberculous pneumonitis, which may give a roentgenologic appearance somewhat similar to that of the patient's. However, this diagnosis would not seem tenable in view of the patient's spontaneous recovery over a period of a few weeks, plus the negative sputum smears and cultures.

As noted previously, pulmonary function data are limited in cases reported thus far. Occasional reports have listed a somewhat decreased total vital capacity without measurement of timed expiration.[6] Dickie and Rankin reported decreased diffusing capacity in the acute phase of the disease with evidence of moderate obstructive insufficiency in the convalescent phase. In one of the cases reported by Jackson and Yow there was a marked decrease of both total and timed vital capacity in the acute phase of the illness.[10] However, this was a somewhat atypical case in other respects in that there was a marked eosinophilia (40 per cent) and diffuse, high-pitched wheezes were audible over the lung fields (uncommon in other reported series). Loeffler's syndrome was diagnosed at first in this case.

RELATED CONDITIONS

"Farmer's Lung" is frequently confused with "Silo-filler's disease." The latter is a potentially fatal illness caused by exposure to nitrogen-dioxide gas emanating from fresh silage in a closed silo. This gas produces marked irritation and inflammation of the bronchial tree and may result in death within a few days from pulmonary edema and diffuse bronchopneumonia.[11] If the patient survives for more than a few days, death may occur later from diffuse bronchiolitis fibrosa obliterans.[12] Patients may recover completely if exposure to the gas has been minimal. Two cases appeared to show marked improvement after intramuscular Prednisolone.[12] Pulmonary function studies have not been reported in the acute or convalescent phases of this illness.

A more closely related condition is bagassosis, which results from exposure to dust from dried sugar cane fiber. This condition was first reported in Louisiana, but has since been seen in other areas.[13] Cough, chest pain, dyspnea, as well as a miliary infiltration on chest x-ray, may be seen in this condition, as in "Farmer's Lung." Bagasse fibers and spicules, with surrounding cellular reaction, have been found in the lung on biopsy.[14] This condition has a better prognosis than "Silo-filler's disease." Pulmonary function studies during the early convalescent phase obtained on one patient revealed normal ventilatory function, but marked impairment of diffusion.[13] The patient later became completely asymptomatic and diffusion studies were not repeated. Two other reported cases revealed slightly decreased timed vital capacity and maximum breathing capacity. An alveolar capillary block was suspected, but diffusion studies were not performed.[15]

A case of "Maplebark disease" or Coniosporiosis, recently reported, revealed roentgenologic, pathologic and many clinical characteristics similar to "Farmer's Lung."[16] Pulmonary function studies during the acute phase of this illness revealed a total vital capacity of 63 per cent of normal, a maximum breathing capacity of 151 liters per minute, and a three second vital capacity of 100 per cent. The respiratory rate was 32 per minute. These findings indicate moderate restrictive pulmonary insufficiency without significant obstruction.

Byssinosis results from chronic exposure to cotton dust and is most common in workers in the carding rooms of cotton mills. Productive cough and dyspnea improve when the patient is removed from the area of exposure and recur rapidly on repeat exposure (hence the name "Monday Fever").[17] The timed vital capacity has been found to be abnormal in the acute phase.[18] Repeated exposure is believed to result in chronic bronchitis and obstructive emphysema.

In the present case, pulmonary function studies were not performed in the first few weeks of the patient's illness for two reasons. He was so severely dyspneic at that time that any movement or effort caused considerable discomfort. In addition, it was necessary to keep the patient in isolation until pulmonary tuberculosis or a similar infectious illness could be ruled out. In any case, the combination of rapid shallow breathing and cyanosis without expiratory wheezing suggests that, as reported by Dickie and Rankin, there was impairment of diffusion capacity, associated with restrictive ventilatory insufficiency. The subsequent pulmonary function studies over a period of six months reveal no evidence of obstructive insufficiency but show a persistent abnormality in diffusing capacity (table 1). The patient was able to return to work after his acute illness and has been able to perform ordinary farm labor without serious pulmonary symptoms. However, he has noted more dyspnea on exertion than was present prior to the onset of illness, indicating a persistent abnormality in pulmonary function. His chest x-ray is essentially

TABLE 1

PULMONARY FUNCTION STUDIES DURING A SEVEN MONTH PERIOD IN A PATIENT WITH "FARMER'S LUNG."

Patient		Age: 50		BSA:1.80
	Normal	*7-28-1961*	*11-3-1961*	*2-19-1962*
VC	3811 M.L.	3747	4278	4232
IC	2858 M.L.	1940	2740	2513
ERV	953 M.L.	1719	1604	1895
FRC	2649 M.L.	3212	3249	3293
TLC	5507 M.L.	5152	5989	5806
RV	1696 M.L.	1493	1645	1398
RV/TLC	31%	30%	28%	24%
TV	500 M.L.	507	557	441
TVC (1, 2, 3 sec.)	80-93-97%	70-90-100%	75-95-100%	68-86-100%
MV	6 L/Min.	13	14	13
MBC	109 L/Min.	—	129	104
BR	103 L/Min.	—	115	91
BR/MBC	94%	—	89%	88%
He. mix:	2-3-min.	2-3 min.	2-3 min.	2-3 min.
DLCO	27.13 MM/Min.	14.93	17.00	13.74

VC = Vital Capacity; IC = Inspiratory Capacity; ERV = Expiratory Reserve Volume;
FRC = Functional Residual Capacity; TLC = Total Lung Capacity; RV = Residual Volume;
TV = Tidal Volume; TCV = Timed Vital Capacity; MV = Minute Ventilation;
MBC = Maximum Breathing Capacity; BR = Breathing Reserve; He. mix: = Helium Mixing Time;
DLCO = Diffusing Capacity for Carbon Monoxide (single breath method).

normal and has not changed since the original interstitial pneumonitis cleared. It is felt that the impaired diffusion capacity is due to "Farmer's Lung" as there is no history of previous pulmonary disease to account for the abnormality. It has recently been shown that prolonged cigarette smoking may decrease the diffusing capacity,[19] but this patient denied smoking. It appears, in view of the stability of the abnormal diffusion over a period of six months, that the impairment is permanent. However, repeated studies would be of interest to determine if the impairment progresses in severity or if obstructive changes appear at a later date. The patient has been cautioned about re-exposure to moldy hay and has avoided contact with this material since his hospitalization.

Although the etiology of this condition is still uncertain, a nonspecific hypersensitivity reaction to molds or mold products seems most likely. Similarity to bagassosis, coniosporiosis (maple-bark disease), and byssinosis has been noted. In addition, the presence in the sputum of various fungi in reported cases (Aspergillus, mucor, penicillum and Candida)[8, 9, 10] mitigates against a single etiologic agent. It is felt that the improvement with the use of iodides reported in earlier reviews, is due to the nonspecific effect of decreasing the viscosity of the thick tenacious sputum which is frequently found in the bronchi in this disease. The usual sequence of changes in pulmonary function in "Farmer's Lung" is noted in table 2.

TABLE 2

USUAL SEQUENCE OF CHANGES IN PULMONARY FUNCTION IN "FARMER'S LUNG."

ACUTE STAGE

Marked impairment of pulmonary diffusion with associated restrictive ventilatory insufficiency.
Bronchospasm with associated obstructive ventilatory insufficiency is unusual but may occur.

CONVALESCENT STAGE

Persistent diffusion defect has been demonstrated.
(This may be on the only abnormality in pulmonary function.)

LATE STAGE

Diffusion defect may be permanent. Late development of emphysema with obstructive insufficiency has been reported.

Adrenal steroid therapy seems to hold the most promise in this disease. This medication should probably be instituted as soon as an infectious etiology can be excluded and the diagnosis established with reasonable certainty. Both the acute and chronic defect in pulmonary function should be alleviated in some measure because of (1) the element of hypersensitivity which is presumably present in all cases in more or less degree, (2) the subjective or objective improvement with adrenal steroids in other disease manifesting the alveolar-capillary block syndrome (scleroderma,[20, 21] Hamman-Rich syndrome[22] and sarcoidosis[23]) and (3) the nonspecific effect of adrenal steroids on inflammation. Improvement with this therapy was dramatic in the cases reported by Jackson and Yow, although, as noted earlier, the element of hypersensitivity was more prominent in these patients than in most other reported cases.

Summary

"Farmer's Lung" is discussed with regard to etiology, clinical manifestations and pulmonary function studies. A case is presented with a persistent abnormality in pulmonary diffusion but with no significant ventilatory impairment. "Farmer's Lung" is compared with several related conditions (bagassosis, bysinnosis and coniosporosis). Hypersensitivity to mold or mold products is believed to be the most important factor in the production of these diseases. It is suspected that the most important abnormality in pulmonary function is temporary or permanent impairment of pulmonary diffusing capacity.

Addendum: Since this article was prepared for publication, a further report on the physiology and pathology of "Farmer's Lung" has been published in the *Annals of Internal Medicine* by Drs. Rankin and Dickie, of the University of Wisconsin. ("Farmer's Lung": Physiopathologic Features of the Acute Interstitial Granulomatous Pneumonitis of Agricultural Workers, Rankin, John; Jaeschke, W. H.; Callies, Q. C., and Dickie, Helen A.: Ann. Int. Med. 57:606-626 (October) 1962.) Studies for pulmonary diffusing capacity were performed on all patients at various times during the course of their illness and convalescence. Although diffusion studies were obtained during the acute stage of the illness in only three patients, seven of the 10 patients had an abnormal diffusing capacity at some time during the course of their illness. This further serves to indicate the typical abnormality in pulmonary function in "Farmer's Lung." It is hoped that this condition will always be suspected in agricultural workers who develop an acute pulmonary illness without obvious cause. Early diagnosis may serve to prevent considerable pulmonary disability in later years.

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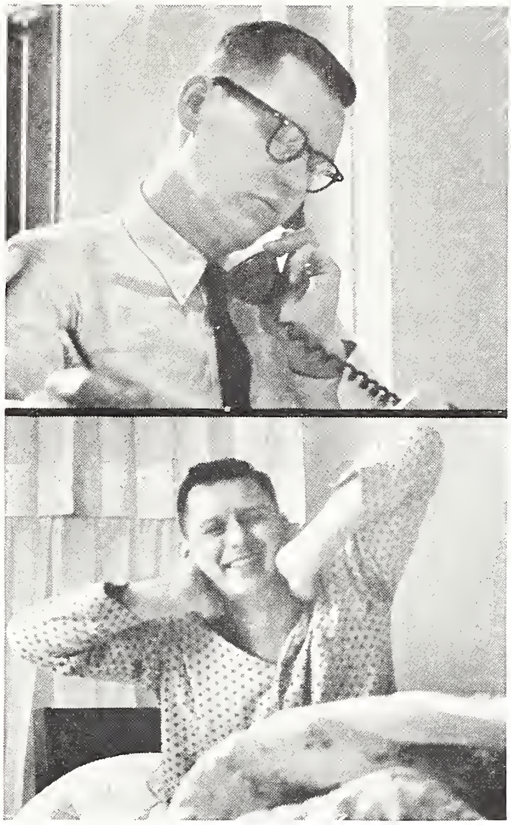

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Electrocardiographic Changes After Intracranial Hemorrhage

Case Report

T WAVE CHANGES suggesting acute myocardial infarction or severe coronary insufficiency and marked prolongation of the QT interval have been reported in patients with cerebrovascular accidents[1, 2] without demonstrable cardiac pathology.

A case report is presented and electrocardiograms shown of the change in a patient following massive cerebral hemorrhage.

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The electrocardiographic changes may be due to interference with the cardiovascular inhibitory and augmentory centers in the medulla oblongata,[3] local anoxia or simple mechanical irritation of cortical areas.[4] It is the purpose of this report to present a case of rupture of an aneurysm on the right internal carotid artery with electrocardiographic findings before and after the cerebral accident.

REPORT OF A CASE

The patient, a 40 year old female, was first seen by her family physician with a chief complaint of severe and persistent headaches. Physical findings and routine laboratory tests were essentially within normal limits. An electrocardiogram (fig. 1) showed nothing unusual. Two days later the patient fainted at work and was taken to the hospital by ambulance. On arrival she was in deep coma. Spinal tap showed bloody fluid. An electrocardiogram at that time revealed significant changes from the previous tracing. There was no definite evidence of infarction, but marked inversion of the T waves, particularly in the precordial leads and prolongation of the QT interval was apparent (fig. 2). The patient expired eight hours after entering the hospital.

(Continued on page 439)

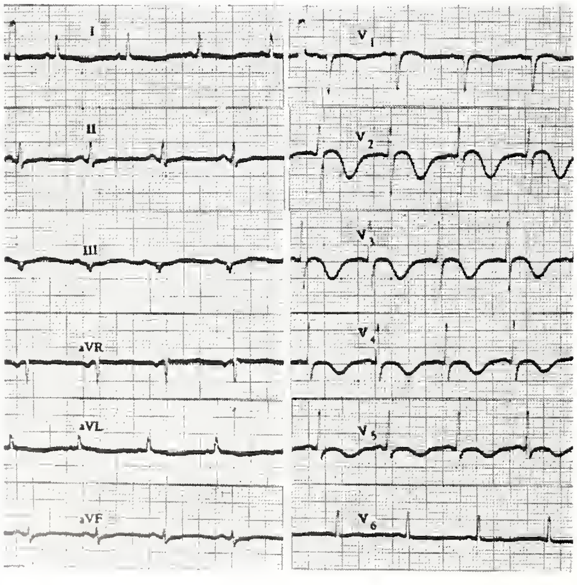

Fig. 1. This electrocardiogram was taken approximately two days before that shown in figure 2. No abnormalities are apparent in this tracing.

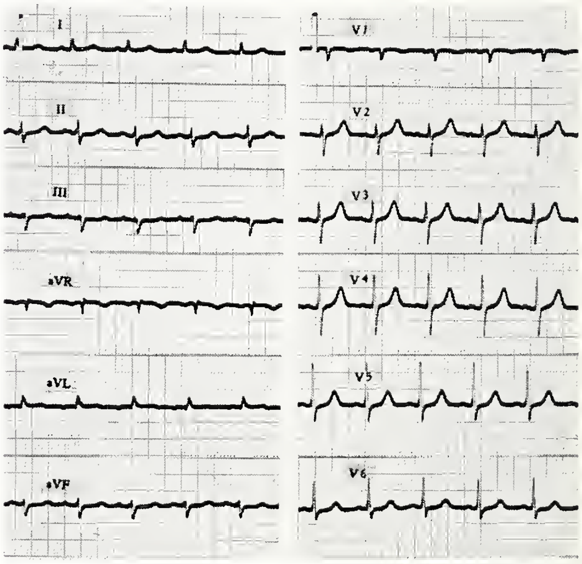

Fig. 2. Electrocardiogram taken approximately two days after that shown in figure 1 and eight hours before the patient died. The remarkable changes which have occurred consist of T inversions, most pronounced in the precordial leads and prolongation of the QT interval.

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LESLIE F. BOND, M.D., *and* CARL H. CALMAN, M.D., *St. Louis*

Acute Intestinal Obstruction

Due to Orange Sections Bezoar Following Subtotal Gastrectomy

Various factors predisposing to phytobezoar are discussed and a case of phytobezoar lodged in the distal jejunum is reported.

From the Surgical Service, Jefferson Barracks Veterans Administration Hospital and the Department of Surgery, Washington University School of Medicine.

INTESTINAL obstruction caused by phytobezoar, or "food ball," is a relatively rare but interesting surgical emergency. Ward-McQuaid[1] has enumerated 45 different foods which have caused such intestinal obstruction in a series of 178 patients. Persimmons, peaches, oranges, mushrooms, brans, apples, figs, cherries and grapes were the most frequent, and in that order. In patients who have had prior gastric resection, the reported incidence is even lower. In a search of the literature, an article by Norberg[2] (1955) presented seven such cases and recorded another five cases. Four of the cases in Norberg's series were caused by oranges, one by grapefruit, and in two the nature of the obstructing mass was unknown, since it was "milked" into the cecum. In 1930, Seifert[3] reported the first such case due to sauerkraut. The four other cases, all due to orange pulp, were recorded by Allen and Smithwick[4] in 1942, Baumeister and Darling[5] in 1947, Fleming and Ward-McQuaid[6] in 1950, and Elfving and Scheinin[7] in 1953. Since 1950 numerous cases of intestinal obstruction due to foodstuff following subtotal gastrectomy have been reported: Stalker and Gotham[8] (1950), obstruction by orange pulp; Pecora, Pepe and Cooper[9] (1952), obstruction by macaroni; Bowen[10] (1956), obstruction by ingested coconut; Rowling[11] (1956), two cases of obstruction by undigested orange; MacPhee[12] (1956), obstruction by orange bolus; Ward-McQuaid[13] (1956), obstruction by orange "ball"; Rains, Dawson-Edwards and Brookes[14] (1956), obstruction by coconut; Ryan[15] (1956), obstruction by orange pulp; Davies[16] (1956), obstruction by orange bolus; MacCarthy[17] (1956), obstruction by orange pith; Norberg[18] (1956), eight cases of "orange obstruction"; Spurzem and Desser[19] (1957), two cases of obstruction by figs in one and by coconut fibers in the other; Butler[20] (1959), three cases of obstruction by orange bezoars; Davies and Lewis[21] (1959), three cases of obstruction from orange pith; Nagel and Bergera[22] (1960), obstruction by raw figs; Ribet, Fovet and Guerrin[23] (1961), three cases of obstruction in which the first was due to grapes, the second to red cabbage, and the third to "Soup of Nice" containing hard boiled eggs; and Hill and Gourlay[24] (April 1962), two cases of obstruction from pulp of orange and grapefruit respectively. Forty-five cases of postgastrectomy intestinal obstruction due to phytobezoar are collected from the literature. Foodstuff ileus following simple gastro-jejunostomy are not included.

Because of the increasing number of gastric resections for peptic ulcer, and the type of food, such as peaches, oranges, apples, figs, cherries, grapes, sauerkraut, containing indigestible fibers which are universally consumed daily, it would appear appropriate to report another case of intestinal obstruction at the lower jejunum, due to nine sections of an orange, in a gastrectomized patient.

Moreover, this condition is not without fatalities. DeBakey and Ochsner[25] in 1938 reported a mortality of 16 per cent in intestinal obstruction due to phytobezoar.

CASE REPORT

L. J. D., a 50-year-old white veteran, had had a subtotal gastrectomy with posterior gastrojejunostomy for intractable duodenal ulcer at another VA hospital. He had no further difficulty with his ulcer problem. On the evening of August 6, 1962, he ate his supper consisting of a bland diet. At 2:00 o'clock the next morning, he was awakened by severe, crampy abdominal pain located over the epigastrium. This was followed by repeated emesis. The same day, pain and vomiting continued every time he ate food or drank water. He was admitted to the

Surgical Service on the morning of August 8, 1962, and an obstruction series of the abdomen was taken. Roentgenograms revealed dilated small bowel.

Physical examination revealed an acutely ill, dehydrated man with a temperature of 100 F., pulse of 90 per minute and respiration of 22 per minute. Blood pressure was 120/70. The abdomen was not visibly distended and the pain was then located around the umbilicus. Auscultation revealed high-pitched bowel sounds with peristaltic rushes coincident with the height of the patient's pain. There was soreness over the epigastrium and around the umbilicus. There was no tenderness or guarding on palpation. No mass was felt. Rectal examination was not remarkable.

Laboratory studies revealed a white blood count of 11,800 cells per cubic millimeter, with 75 per cent neutrophils. Hemoglobin was 14.4 Gm. per cent, serum amylase 100 units per 100 cc. Blood urea nitrogen was 20 mg. per cent, and he had a non-reactive VDRL. Urinalysis (Foley catheter) showed a specific gravity of 1.025, albumin 2 plus, sugar trace, while microscopic examination showed six to 10 white blood cells per high power field, and many red blood cells.

A Levin tube was passed and continuous suction employed. The patient's vomiting was relieved and hydration improved, but the pain continued. The same afternoon, repeat roentgenograms showed persistent small bowel distention with air-fluid levels. A preoperative diagnosis of small bowel obstruction from his previous operation was made, and immediate surgery was advised.

Emergency exploratory laparotomy was carried out the same night, exactly 42 hours after onset. Under endotracheal, nitrous oxide-fluothane, oxygen and succinylcholine anesthesia, a right mid-paramedian incision was made. On entering the peritoneal cavity, dilated loop of small bowel presented, and about 100 cc. of straw-colored fluid were aspirated. The dilated loop of bowel was traced to the lower jejunum, where a yellowish doughy mass, about the size of a large hen egg, measuring about 7 by 5 cms., was wedged in the jejunal lumen. The bowel distal to the mass was completely collapsed, and it was traced down to the ileo-cecal junction. The dilated loop of bowel was traced up to the region of gastrojejunal anastomosis, which was posterior in type, and the stomal opening easily admitted the tips of three fingers. Further examination revealed a 75 per cent gastric resection, with no evidence of jejunal ulcer, and the afferent loop showed no abnormality.

The loop of jejunum with the impacted mass was walled off with moist pads. The assisting surgeon used the index and middle fingers of both hands to clamp the jejunum proximal and distal to the mass. A one and one half inch incision was made over the anti-mesenteric border of the jejunum, and the mass was extruded without gross soiling. The mass was foul smelling, and when examined by the circulating nurse, nine sections of orange pulp were separated with ease. The sections were held together by a sticky mucoid material (figs. 1 and 2). The jejunum was then closed transversely with an inner layer of continuous 3-0 chromic, and an outer layer of interrupted 4-0 silk.

On questioning the patient the day after surgery, he stated that he had eaten his supper with only an upper denture and without his lower denture. He remembered eating an orange, section by section, and chewing them. The patient made an entirely uneventful convalescence and was discharged from the Surgical Service on the 14th postoperative day.

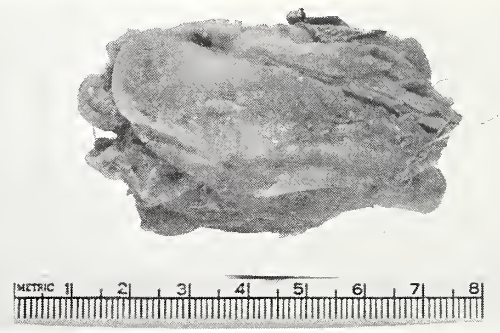

Fig. 1. Obstructing mass removed from lower jejunum.

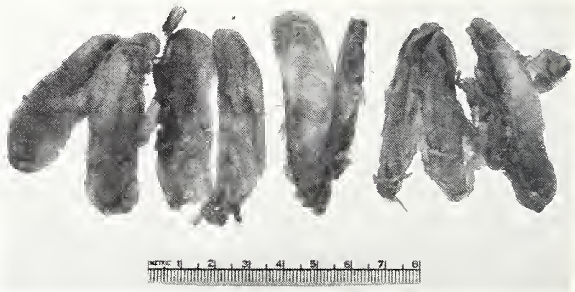

Fig. 2. Separation of mass into nine sections of an orange. (Normally there are 10 sections in such an orange.)

DISCUSSION

It is unlikely that a mass of this type and size would pass through the pylorus of a normal stomach. The orange sections are held together relatively loosely and normal gastric digestive processes would probably result in their being broken up and passed through the pylorus. If gastric digestion was not sufficiently efficient they would probably be vomited up. It is a well known fact that the stomach empties more rapidly following creation of the type of anastomosis carried out in this patient, and especially with the Billroth II type of reconstruction. Thus, efficiency of gastric digestion had been lost. Furthermore, patients prone to this type of difficulty are often edentulous and, therefore, masticate food poorly. These two factors, therefore, predispose such individuals to intestinal obstruction by phytobezoars. A third factor is the character of the food which is usually involved. In almost all instances these have been pulpy fruits or vegetables containing large proportion of indigestible material, even when passed through a normal gastrointestinal tract. It would appear that in the present case the orange sections were jelled together into a bolus in the stomach and passed through the stoma into the efferent loop of the jejunum to become impacted in the lower jejunum. It could not have been formed in the small bowel since there was neither evidence of kinking by adhesions nor inflammatory or malignant stricture throughout the jejunum.

In view of the fact that many persons are subjected to gastric resection for peptic ulcer, and that those who are also edentulous are unable to masticate food well, this condition should be kept in mind and patients advised to guard against this complication. Although this condition appears to be relatively rare, as pointed out, it carries about 16 per cent mortality.

Summary

A case of phytobezoar lodged in the distal jejunum and consisting of a bolus of orange sections has been reported. This patient had had a previous gastrectomy and was edentulous. The various factors predisposing to this condition have been discussed. This particular complication of gastrectomy should be a preventable cause of morbidity and it is, therefore, worthy of wide recognition. Patients who have been operated on for peptic ulcer should be told to chew citrus fruits carefully, or better still, to consume the juice only.

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ELECTROCARDIOGRAPHIC CHANGES

(Continued from page 436)

Autopsy revealed a ruptured aneurysm on the right carotid artery. All other findings including the myocardium and coronary vessels were normal.

Summary

A case with massive cerebral hemorrhage is reported. It is interesting that an electrocardiogram taken a few days before the cerebral accident was within normal limits, and changed remarkably after massive cerebral hemorrhage occurred. Autopsy revealed a rupture of an aneurysm on the right carotid artery, but there was no evidence of organic heart disease.

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The Graduate Student Syndrome

Special Article

This essay was judged the outstanding senior student dissertation on a psychiatric subject for the year 1962 at the University of Missouri School of Medicine, in the second annual competition for the Student Thesis Award of the American Psychiatric Association.

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THE "GRADUATE student syndrome" is a relatively new problem which has emerged as one of the complications of post-war changes in present higher educational systems. Colleges and universities throughout the country have made many changes as they create and expand facilities for married students. Formerly, such students were tolerated; now they are anticipated. As Young[8] has noted, the married student theoretically postpones his adult occupational role in the belief that additional training will give him a higher social status and a better income. Also involved is the fact that people are marrying younger. They are not so bound by the rigid expectation that was demanded a generation or two ago, of "a man taking a wife only if he could provide for her." On the contrary, it seems in some cases that a woman can take a husband only if she can provide for him—at least temporarily—while he goes through school.

The initial impetus to the present married student situation arose in the immediate post-World War II period, when many men drafted before or out of college served in the Armed Forces, were discharged, and had the chance to get or complete a college education with the aid of the "GI Bill." This spurred many to attend college in order to advance their careers, to compete with fellow "new civilians," or to avoid temporarily an unregimented, disorganized civilian life. These veterans, many married, were older, more mature and had financial backing. In order to accommodate these students and their families, many colleges and universities were forced to put up temporary dwellings. Many of those "tar-paper shacks" which the college administrators said "are only temporary" are still in use today.

As the years went by, the marrying age lowered. Consequently, more and more students starting college began to marry before completing their education. Many of these younger married students had not been in the Armed Forces but relied on other means of support. Only a few had resources to maintain themselves comfortably without one or both partners taking jobs. Generally this meant that the wife took a full-time job and the husband a part-time job.

Not only was there an increase in undergraduate marriages, but also more young men were going on to graduate schools or into one of the professional schools. Since there were housing provisions for both the student and his spouse on many campuses, the postponement of marriage was no longer necessary. Increasing competition for jobs also stimulated an increasing number of married students to enter graduate schools. Factors such as these played a part in the emergence of a new entity, the student's working wife.

THE STUDENT'S WORKING WIFE

Although perhaps exaggerated, the following 17th century concept of the role of marriage partners is probably still held, in whole or in part, as a prototype pattern: "The dutie of the husband is to . . . seeke living: and the wives dutie is to keeps the house. The dutie of the husband is to get money and provision; and of the wives, not vainly to spend it. The dutie of the husband is to deale with many men: and of the wives to talk with few. The dutie of the husband is, to be entermedling: and of the wife to be solitaire and withdrawne. The dutie of the man is, to be skilfull in talke: and of the wife, to boast in silence. The dutie of the husband is, to be a giver: and of the wife, to be a saver. . . . Now where the husband and wife performeth the duties in their house we may call it College of Qyietness: the house wherein they are neglected we may term it hell."[6]

Granted, times have changed, but many of these old attitudes probably remain in the mind of the modern marriageable young woman. To be provided for, to be supported, to be dependent upon a husband and, in our culture, to foster the stability of the household—these seem to be the expectations of many a starry-eyed teen-ager. But what happens when such a young girl dates a fellow during the college years? They become "pinned," then engaged, then married while still in undergraduate work or immediately following graduation. Then they attempt to put into action their plans for the future. This usually means one of three courses: (1) They can settle down with the husband as the bread-winner, provider and protector. (2) The husband can enter the Armed Forces and, though regimented and leading a different kind of life, can maintain the role of the dominant one, the supporter and provider. Or (3) the husband can postpone his productive years in hopes that with more education he will be able to achieve a higher social status and better income. Hence, the spouse must also put off her role of "wife" until "sometime later." In this role she is not a wife, but rather a woman with a husband's role at least temporarily. Most generally, it is agreed upon by both that the rewards are worth the waiting and the sacrifice. But there are drawbacks.

THE STUDENT HUSBAND

The husband must contend with the problems that confront all those who are students. The intelligence of the husband is an obvious factor which will influence his adjustment in school. His special motivations, his abilities and disabilities, his own adjustment to the course of study, his relationship with his teachers, all contribute to his general academic success or failure. Also important are the extra-curricular influences which may affect him such as his own cultural background and attitudes, the financial support he is able to obtain to carry on his education, his living quarters and his religious and ethical readjustments.[8]

As a graduate student, there are still other problems. The prolongation of a limited income period is frustrating and quite disruptive to the student's concept of his own worth, especially for the individual who has been going to school since kindergarten. He must continue in his dependent and non-adult role of student.

For the married student there are even more problems. These include the general problems inherent in all marriage relationships: the establishment of a home, social and sexual compatibility, living on existing income, social relationships, in-laws and the prospect of children. The growth of a family involves needs, frustrations and jealousies of several individuals.[4] With children comes a whole new range of problems, not the smallest of which is financial (and, in the case of the student's wife, her occupational incapacitation with subsequent loss of income). For many there must be a temporary or permanent sacrifice of ultimate goals at such a time.

CONTEXT OF THE PROBLEM

In recent years, as has been pointed out, marriages while in school have become more common, especially with the cultural changes and increased financial support offered to veterans. Wives who work become socially accepted and can contribute to the support of their husbands. However, financial dependence of the husband upon the wife is not without its own difficulties.[5] For example, a case history noted in Clement Fry's "*Mental Health In College*"[3] describes a graduate student who found it necessary to consult a psychiatrist because of the many pressures he felt in the awkward role of the dependent partner. The student was supported entirely by his wife, a fact which he resented. The wife was capable and active. The patient felt the wife was a threat and there was severe competition for dominance.

The financial limitations may create postponement of reproduction, which in turn may lead to hostility on the part of one or both marriage partners. And even in the childless marriage, the graduate student with a heavy study load many times requires a solitary "night at home with the books" rather than a relaxing "night out on the town" together.[5]

The wife who works alleviates, in part or totally, financial insecurity, but not without necessitating a subsequent reorientation for both spouses regarding household duties and economic dominance in the home. A certain risk of future marital difficulties is always involved in such a situation. Young[8] has pointed out that no one has studied the later matrimonial careers of students married before completion of their training. Such an investigation might reveal valuable data regarding the interactional adjustments against the background of professional training, interspousal roles during this period and later social role and status.

With children the problem is compounded to an even greater extent. The wife is torn between her need to be with her children and her need to support her husband. Either way she is faced with an inevitable situation of guilt. If she goes back to work after the baby is born, she may feel that she is failing as a mother. On the other hand, if she stays home and there is no other means of obtaining financial support for the husband's continuing education, the wife may have extreme guilt feelings regarding her interference with her husband's future. And he, too, either consciously or unconsciously, may resent the child and the wife for destroying his own educational development, for crumbling his goals, and for smashing his dreams, both realistic and unrealistic.

In the role of bread-winner, the wife must carry a heavy burden. Not only is she cast in a role for which she is generally unprepared, but she is also holding her husband's future in her hand. At times she may desire to, and actually may, utilize this "power" to destroy his ambitions. It is realized also by the husband, consciously or unconsciously, that in order to succeed he must be passive and not upsetting for fear she may "let him fall" without her support.

Thus the married student faces ongoing social and emotional stress. The postponement of material goods, the time spent separated, the social sacrifices, the postponement of children and the frustrating constant reminders to the student couple of those friends who, now married, have established themselves in their chosen fields, are all stressful. As such couples interact socially there is envy and jealousy. Especially hard is the tour through "our new home" or "our new car." Also, the student couple is confronted by the friends' leisurely pace, the eight hour day, the release from required study and the gloriously free weekends.

A special problem which is a constant threat to the student wife in many cases is the fact that the husband's family is in some way helping financially. This becomes a symbol of the husband's continuing dependency on his parents, and the wife begins to feel that she is herself in a parasitic relationship. She would rather do anything than accept money from her in-laws.

It is difficult to say whether dependency is a greater problem to the person who is dependent or to the person on whom the dependent one must lean.[1] One demands, one responds. To someone with a self-image of adequacy it is a traumatic experience to be in a dependent state. Dependent feelings and resentment go hand in hand in our culture. It is rare to find a dependent relationship free from this resentment. The one who gives the assistance also has resentment because of lack of appreciation: "It is a thankless business." The wife may begin to feel that "all he cares for is my paycheck." She may get the feeling that she is merely being used and that when her productiveness is through she will be cast aside.

AFTER GRADUATION

Eventually the husband will probably graduate. At that point, the expectations, the dreams, the plans and the benefits are now anticipated. But the transition is rarely that easy. It is not a simple thing for the husband and wife to do a complete change-over in roles without certain repercussions. Reality may be less rewarding than fantasy. The following case history illustrates some of the initial and continuing problems in such a situation.

Mrs. X., a 28 year old white housewife, was admitted to the psychiatric inpatient service of the University Hospital because of severe depression. Her husband is a school superintendent in a Midwestern town of 1,500 population. The patient had grown up in a middle class home in a Southern city. She graduated from high school and went to work in a department store as a secretary at a good salary. She was intelligent and an excellent worker. While working she met a man who was stationed at an Army base just outside her hometown. They dated for several months, being predominantly interested in church activities. They became engaged and married just a few months before his discharge. She continued her secretarial job.

After his discharge he had planned to go on to school, as he had completed two years of college before entering the service and wanted to obtain his B.A. degree in education so that he could teach. They went to a large State University and he completed the requirements for graduation. The patient also took some courses at the same time, in addition to her full-time job as a secretary. After he received his B.A. degree, they discussed the possibility of his going on into graduate work. She told him that she would stand behind him if that was what he really wanted. They moved to another city in which he could attend a graduate school of education, and the patient again worked as a legal secretary, a job which she enjoyed because it was both stimulating and challenging, as well as providing a comfortable income for a student couple.

After the husband had completed one year of graduate work, the patient became pregnant. She was delivered of twin boys, which at the time was extremely upsetting to her. However, after a few months she returned to her former job with the law firm. She had some guilt about leaving the children, but felt it would be better for them in the long run. Baby sitters raised the children for the next four years while the husband finished his Ph.D. On graduation day the husband, after receiving his diploma, walked over to his wife, kissed her and handed her the degree, saying, "Here, this is just as much yours as it is mine." The wife still looks back upon this act with much emotion, saying, "I felt then that he really appreciated what I had done."

When asked how she felt as she worked to put her husband through school, she said, "I was too busy to feel anything." At first she felt uncomfortable about working, saying, "Marriage was not as I expected . . . it was a disappointment to me." Finally, she became more used to the routine, but on occasion would feel that "my paycheck was more important to him than I was. . . ." She felt at times that she was being used by her husband.

The family then moved to the small town in which they presently reside. The patient stated she did not like the town at all and was quite verbal about her reasons: the town was too small, the people were uneducated, there were too many gossips, the schools were not progressive, there were no couples who would make good friends except one lawyer (a recent graduate) and his wife. She stated the town just did not compare with her hometown. The patient had lived in the present town for only five months when her mother died. She then became severely depressed and was referred to the University Hospital.*

Dynamically, it appears that the chronic stress of role reversal, plus the new traumatic pressure of the patient's mother's death, was too much to bear. The patient had tried to make the adjustment to the role of superintendent's wife, but after having been the dominant, aggressive bread-winner and provider, she felt that unless she worked she was useless. Her interpersonal reactions with her husband had been on little more than an occasional social basis, their communication had been quite limited because of the little time they had together. Much of the care and feeding of the children had been taken over by the student husband, which he had resented. And even as a school superintendent, the husband's monthly check was $200 less than the wife had been making as a legal secretary, a fact about which she often reminded him. Thus, the realization of the expectations of a marriageable girl, that her role in the relationship would be the more dependent, with her husband acting as the provider and protector, was postponed, since she became the provider and protector until it was possible for him to get his degree and the job he wanted. But now that they had attained this goal, she had many problems. She was not quite sure of her own worth since she stopped working. Moreover, she was not quite sure whether she had created a better husband or a stranger. Nor was the husband clear about or satisfied in his role. The graduate student and his wife had achieved what they had been working for, but the syndrome—of anxiety, doubt, resentment and confusion over role identity—remained.

SUMMARY AND CONCLUSIONS

This case history points up several significant elements in the pattern of the "graduate student syndrome." First and foremost, the student's spouse is cast in a role for which she is not likely, in present culture, to be prepared—that of furnishing the livelihood for both herself and her husband, if only temporarily. If children come and interfere with the plans, it causes much guilt in the student couple, and especially in the wife who feels split by devotion to husband and devotion to their children. If the husband's educational plans are stopped, often there is a conscious or unconscious resentment toward the child. If the wife returns to work, the resentment is often toward the husband instead.

Upon graduation the problems are certainly not over. The anticipated dreams and aspirations of the couple are now put to a test, and the results may be quite disillusioning. The wife, having now quit her job and trying to "settle down," may find herself extremely depressed, agitated, and with frequent feelings of worthlessness. She may feel that she has been "used" by her husband. What she thought were the singular pressures of school become the same pressures in setting up a new job. This is especially true in the professions or in executive positions, when the husband cannot work a 9:00 to 5:00 day.

The results of this can be: (1) the acceptance of the situation with resolution of these problems in time, (2) the rejection of these circumstances by terminating the marriage relationship, or through psychologic escape mechanisms and further psychologic disruptions, or (3) modification of the problems by more-or-less constructive utilization of psychologic defense mechanisms plus adaption to changing circumstances. It seems likely that skilled psychotherapeutic investigation in the more severe cases will help one or both partners to become better aware of the difficulties they have faced and may continue to face so that they may more fully understand their own feelings and be able to deal with these feelings. Additional research should provide relevant data.

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* Certain minor details in this case history have been changed to protect the identity of the patient.

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vacancy

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*U.S. Department of Health, Education and Welfare, Public Health Service Publication No. 813.

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Thermonuclear Survival

Long-Term Survival After a Thermonuclear War

THE PROBLEM OF long-term survival after a thermonuclear war is one which has given rise to a great deal of speculation and concern. There have been many viewpoints expressed, ranging all the way from the pessimistic opponents of Civil Defense who state that a thermonuclear war would make life on this planet impossible, to the optimistic estimate of some members of the Rand Corporation that a thermonuclear war will involve a set-back of no more than 10 years in our national progress.

Any attempt to project the future is, of course, highly speculative and it may be argued that one man's speculations are no better than another's. However, it may prove helpful to present some estimates of what might happen after a thermonuclear war as a guide to planning.

Although all the effects of a thermonuclear attack will interact with each other, it is useful to consider each one separately in order to get some idea of the order of magnitude of disruption which would be produced.

1. *Fires, Floods and Erosion of Land.*—Considerable alarm has been expressed about the long-term effects resulting from the fires which would follow a thermonuclear attack. Statements have been made that a few large thermonuclear weapons would start enormous firestorms which would completely denude the nation of growing vegetation. It is stated that the subsequent spring would find enormous floods which would erode the land to the extent that no substantial harvest could be brought in for years or perhaps centuries thereafter. This view is considerably exaggerated. There is no doubt that certain areas in the United States would be subject to the long-term effects mentioned. However, this is a large country and most of the nation would not be so affected. A large part of the growing timber would probably be destroyed, and there would certainly be some flooding as a result of this. However, the flooding would be confined almost entirely to the flood plain areas. There is no reasonable likelihood that it would extend beyond. This means that some of the richest farm land in the nation would be lost. However, the so called "bottom land" actually comprises a small percentage of the total arable land in the nation, probably well less than 1 per cent. There would also be some additional erosion in other areas. By peacetime standards there would indeed be an enormous loss of arable land. However, there is a major difference between saying that and saying that ability to produce food would be lost for decades or centuries. The probability is that a major attack would destroy the arability of tens of thousands of square miles of land. By any ordinary standard this would indeed be a fantastic disaster. However, it is well to remember that this country has more than three million square miles of land.

This continues a series of articles on thermonuclear survival. These include material previously published in the *New York State Journal of Medicine,* and are published with permission of that journal.

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Reprints of individual articles will not be available but reprints of the entire series will be made available if there is sufficient demand.

2. *Insects.*—It is known that insects are far more resistant to the effects of radiation than are the higher forms of life. Therefore, it has been predicted that after a thermonuclear attack insects would continue to multiply wildly, since their natural enemies among the higher forms of life would have been largely destroyed. For example, the bats, birds and small rodents would no longer be available to keep insects in check. Therefore, according to this line of reasoning, there would be tremendous plagues of insects which would destroy any growing vegetation and spread disease. There is a major fallacy to this concept. The most important natural

agencies for keeping insects in check are not the higher forms of life such as mammals or birds, but other arthropods. Indeed, in most cultivated areas in the U. S. today, mammals and birds play a minor role in keeping insects in check. The predatory insects and spiders are more important than the mammals and birds in maintaining a balance of insect life. After a thermonuclear attack these predatory insects and spiders would be just as likely to multiply as would those that are considered enemies of man.

3. *Livestock.*—It has been predicted that following a thermonuclear war most of the livestock on American farms would be killed, leading to major dislocations in American agriculture and to starvation among the populace. Unfortunately, there is no economical way to provide shelter for most farm animals against fallout radiation. Therefore, it does appear probable that following a thermonuclear war somewhere in the neighborhood of 90 per cent of American farm animals would be killed. This does not, however, mean that the human population would starve. It does mean that we would have to exist with an absolute minimum of meat and milk for a period of several years until livestock breeders could replenish their herds. During the period after a thermonuclear war, it would be necessary to exist largely on grain. This, however, is something which our ancestors have done for many millenia and it is quite possible to live for several years in good health without eating meat.

4. *Plants.*—Fears have been expressed also that there will be major changes in plant life following an attack so that it would be impossible to grow sufficient food to maintain the population. This would probably be the case for one or possibly two years following a thermonuclear attack and perhaps for a third year if the attack were extremely heavy. To guard the survival chances of the population of this country it would, therefore, be necessary to make sure that a minimum supply, and preferably a three year supply, of stored grain be available. A two year supply is available now.

5. *The Risk of Congenital Malformations.*—Since nuclear radiation damages the germ plasm and produces mutations, there has been considerable concern over the probable incidence of congenital malformations in children born after a thermonuclear war. Although there is no doubt that a thermonuclear war or indeed any increase of nuclear radiation will increase the incidence of congenital malformation, it is important to keep in mind the magnitude of such an increase. A careful estimate of the probable increase in congenital malformations following a thermonuclear attack of major proportions is that it would come to about 1 per cent of the total birth rate. This may sound quite horrible, but nevertheless must still be kept in perspective. The percentage of congenital malformations which are being born right now is roughly 4 per cent; thus, the long-term effects of a thermonuclear attack upon this nation would not be such as to destroy the human race. Furthermore, from the standpoint of the personal tragedies involved one must bear in mind the fact that congenital malformations vary in degree and the figures given include all those which are detectable. A substantial proportion of the congenital malformations which occur would be of such a nature that the individuals concerned would have a good chance to live a reasonably normal life.

There is a protective feature which is operable also. Those congenital malformations which are too severe result in early death of the embryo and subsequent miscarriage. Fictional ideas of a nation of monsters replacing the human race have no basis in fact.

The probable increase in incidence of congenital malformations as a result of a thermonuclear attack is, by comparison to the other risks, so small that it is probably not advisable to devote much energy at this time to devising methods of protection against this particular problem other than the general method of reducing radiation exposure as much as possible.

6. *Leukemia and Bone Cancer.*—The greatest hazard by far in terms of survival following a thermonuclear attack is the increase in leukemia and bone cancer which could be expected in young children. For some reason, this great danger has not provoked much discussion although much lesser dangers have. Young children are particularly susceptible to leukemia and bone cancer following radiation. Furthermore, since they have growing bones, minerals are accumulated within those bones. Under ordinary circumstances, calcium is the major mineral deposited in growing bones. However, the body will take up strontium and deposit it in place of calcium depending upon the ratio between the two metals. Unfortunately, one of the major residues of a thermonuclear detonation is strontium 90, a long lived radioactive isotope. This material is readily incorporated into the bones of growing children where it continues to give off radiation. As a result of this, the dose of radiation absorbed by particular areas in the bones and bone marrow of a child are much higher than the total body radiation absorbed by an adult. Furthermore, strontium 90 has a long half life so that its effect would persist for a long time. It would be accum-

ulated in all growing plants to varying degrees, depending upon the amount on the soil. Some would be taken up by cattle and secreted into milk.

The extent of the risk from strontium 90 may be understood from a consideration of the effects without any protective measures. Careful calculation has indicated that if the Russians attack with approximately 7,000 megatons (well within their capability) the probable death rate among children from leukemia and bone cancer will be 50 per cent for many years thereafter. That is, for several generations roughly half of the children in every family will die of leukemia or bone cancer before reaching adulthood. Of course, there are some protective measures which are available and which will be discussed. These will reduce considerably the risk of bone cancer and leukemia. Nevertheless, it should be clear from the aforementioned figure that the greatest risk to long-term survival after a thermonuclear war lies in the high incidence of bone cancer and leukemia which would attack children.

There are a series of protective measures which can reduce the risks of leukemia and bone cancer considerably. The simplest involves the feeding of calcium tablets to children daily after a thermonuclear war. This would be a relatively simple matter since there are huge limestone deposits in the nation which would not be contaminated by any kind of fallout. By giving large doses of calcium to children one would decrease considerably the deposition of strontium in bones. The body, fortunately, will absorb calcium in preference to strontium when both are present and will excrete strontium in preference to calcium. The relatively simple device of feeding calcium tablets will reduce the incidence of leukemia and cancer in children by about five times. Still, however, the remaining death rate would be extremely high.

Other measures would also be available for reducing the amount of strontium taken in by children. It is a fairly simple matter for dairies to set up ion exchange devices so that all of the metallic ions in milk are removed and then additional pure calcium may be added. In this way, it would be possible to provide strontium free milk to young children following a thermonuclear attack provided, of course, that there were sufficient cows. Unfortunately, there is little likelihood that sufficient cows will survive a major attack; and therefore, this particular protective feature could hardly become operative for many years, until the dairy herds have been rebuilt. It may be anticipated that in the years before the dairy herds are rebuilt, milk will be strictly rationed and reserved exclusively for young children and pregnant women.

Another protective device is practical if undertaken before an attack. This is the storage of large quantities of dried milk powder which could be reconstituted and used as a food for children after an attack. If this nation had a supply of stored powdered milk equivalent to the stores of grain, the outlook for survival of children after a thermonuclear attack would be much, much better.

There are other measures which may be taken which would also reduce the incidence of leukemia and bone cancer in children after an attack. There may be regulations prohibiting the growing of food in areas with a heavy strontium 90 level in the soil. Extensive addition of lime to soils, using the vast resources of limestone, would probably cut down the contamination of fresh vegetables to a large extent, since vegetation also prefers calcium to strontium and will absorb much less strontium if there is a surplus of calcium in the soil. This, however, may prove to be a somewhat expensive procedure and would not be practical for about two years after a thermonuclear attack. It could be initiated now. Soil is usually improved greatly by the addition of lime and if the agriculture policy were modified to encourage the addition of calcium to soil, it would not only reduce considerably the risk for children following a thermonuclear war, it would be a major soil conservation measure. There are also some more complicated methods of reducing the risk of strontium which include the scraping of the upper few inches of farm land after a thermonuclear attack and the dumping of the scraped dirt in large piles near which vegetation would not be grown. Through this device it would be possible to reduce almost completely the risk of strontium 90. However, the cost might well prove to be prohibitive.

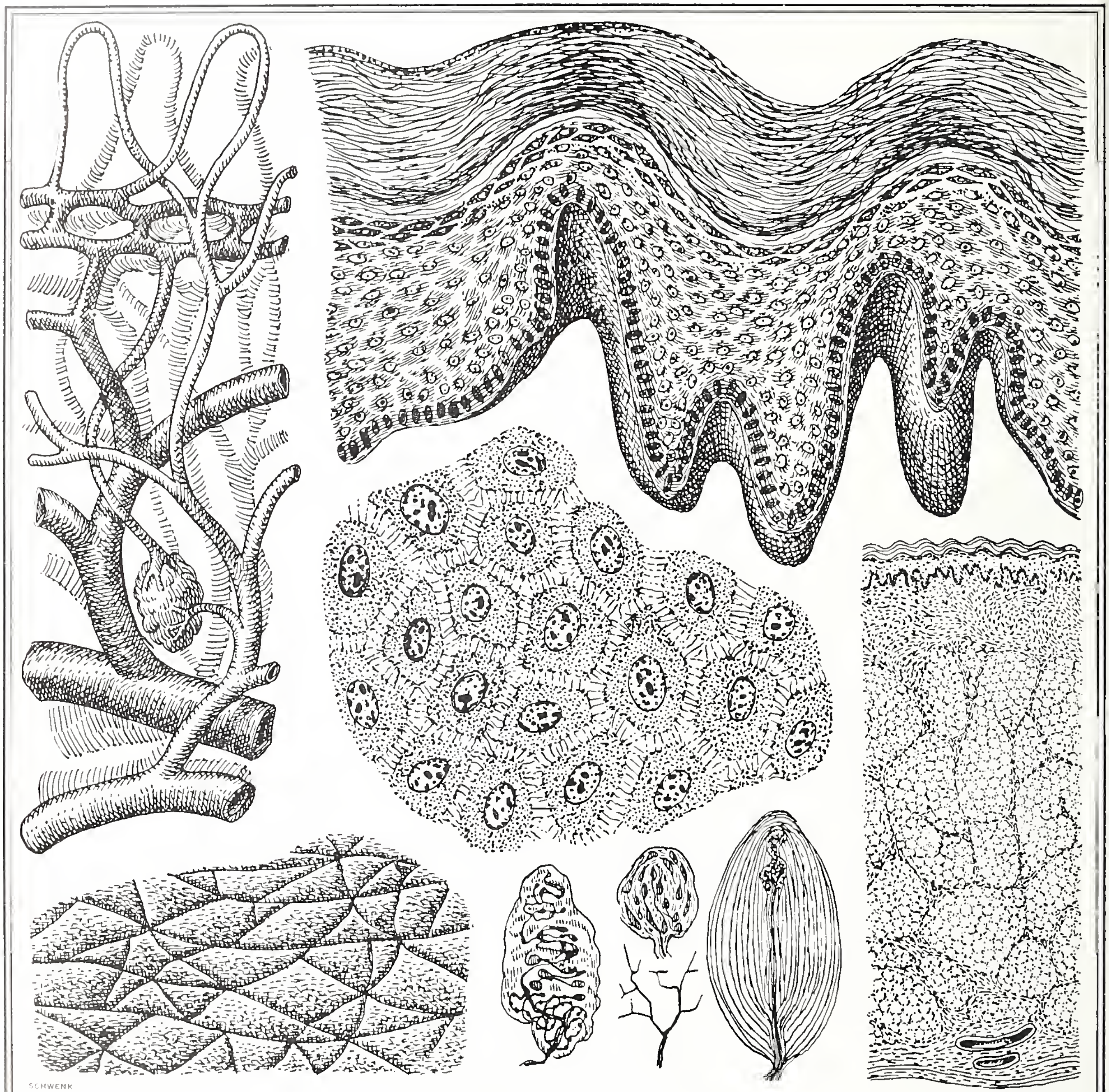
There is, of course, a more direct way in which to attempt to reduce the risk to children following a thermonuclear attack, and that would be the discovery now of a method for curing bone cancer and leukemia. If such a method is to be found, it would have to be before a thermonuclear attack, since the research facilities in any nation in the world after such an attack would be crippled for a long time. Although, there is a general feeling that research is being conducted in the nation at a satisfactory rate, this impression will not stand close scrutiny. The amount of funds actually allocated for research into leukemia and bone cancer are extremely small. Indeed, all the money spent in this nation from all sources for research into leukemia and bone cancer has been less than the cost of a single nuclear submarine. Many scientists who would like to work on these problems and would like to help find a cure for these diseases are unable to do so for lack of funds. Others who have some funds are handicapped by the small amount allocated. The argument is sometimes raised that there are not enough well-qualified scientists to spend any more funds in a prudent, economical manner. The implication is that if more funds were to be allocated to research in bone cancer and leukemia, there would not be enough trained people to do the job properly anyway. This is simply not true. There are many competent scientists today working in these fields who could readily expand their work if more funds were available. Many of them, because of fund shortages, act as their own glassware washers and their own technicians. If more funds were available, they could hire people of somewhat lesser skills to do those jobs which need not be handled by the scientist himself.

In addition, there are a number of scientists who are unable to obtain funds for research in these two fields because their applications are considered to be of lower priority than those of others. Lower priority in effect means that the reviewing committees consider their approach to be less promising. However, one must remember that many of the greatest discoveries of medical science including those of Pasteur would have been granted low priority by a reviewing committee of their day. A careful estimate of the problem suggests that a five fold increase in our research effort directed toward finding a cure for leukemia and bone cancer would be a prudent and reasonable increase within the next year or two.

It should also be noted that the risk of increased leukemia and bone cancer is going up even without a thermonuclear war. Every added bit of radiation increases this risk, especially for children. Thus, whenever the Russians or Americans test nuclear weapons, there is a small but definite increase in the number of children who will die with leukemia and bone cancer. With every additional installation using nuclear fuels, even for peacetime use, there is a small but definite increase in the amount of radioactivity. This, too, increases the risk of bone cancer and leukemia. To be sure with peacetime installations, precautions are taken to reduce as much as possible the radiation burden. However, accidents have occurred and will probably continue to occur in which radiation or radioactive materials poison the atmosphere. Therefore, increased effort to find a cure for leukemia and bone cancer should be considered a responsibility, not only to our own people, but to others in the world who may suffer as the result of our nuclear progress.

7. *Economic and Political Upheaval.*—There have been many predictions, usually from opponents of civil defense, that the entire economic and political system will die following a thermonuclear war. The implication is that we will either revert to barbarism or to some type of facism or communism. There is, however, no realistic basis to support such predictions. There is no doubt but that for a short period following a thermonuclear attack there will be economic upheaval. Americans will have to live under the most austere circumstances for periods of a year or so. Many Americans will have to live as austerely and uncomfortably as did our soldiers during wars. However, there is every reason to believe that a large measure of recovery will develop within about two years. Anyone who has seen the ingenuity and energy of American servicemen overseas can hardly despair of their ability to cope with a difficult situation. Furthermore, the danger of a political upheaval seems to be small. There are no substantial oppressed minorities in this nation who are anxious to change our political framework. Indeed, those minorities which are the most oppressed are precisely the ones who have the greatest stake in the democratic form of government. Furthermore, the basic organization of governmental units in the United States lends itself to rapid recovery. For example, our city and county governments can function quite well without the need for directives from state or federal officials. This decentralization of government provides an excellent insurance for the resumption of a democratic form of government following a thermonuclear attack.

From time to time, other problems involving long-term survival after a thermonuclear war will be uncovered. In general, one may anticipate that opponents of civil defense will try to exaggerate the long-term dangers after a thermonuclear war in order to convince everyone that civil defense is completely impractical and useless. Nevertheless, there is every reason to believe that with intelligence and courage answers can be found to the problems of the future as answers have been found to the problems of the past. We may not find those answers on the first try (we certainly have been unable to find the answer to the problem of war and peace thus far), but we may be confident that eventually such answers will be found.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Kenneth C. Hollweg, M.D.

President's Message

That fateful day for many Americans has come and gone—April 15, income tax day.

Also, the Missouri Legislature has settled its long controversy about taxes and has passed the bill to raise the sales tax to 3 cents on the dollar. This had delayed other legislation in which physicians are interested as such, not just as citizens interested in any tax debate. This means that matters more vital to physicians will now come into prominence.

At the national level, the tax debate is still keeping other matters from receiving as much attention as they might otherwise receive. However, this can change at any time.

But definitely it points out that physicians should be alert to legislation, both state and national, and keep in touch with their legislators. I hope that each member will make it his individual concern to do this.

Kenneth C. Hollweg

EDITORIAL

LEONARD T. FURLOW NAMED PRESIDENT-ELECT

The House of Delegates of the 105th Annual Session of the Missouri State Medical Association elected Leonard T. Furlow, M.D., St. Louis, as President-Elect, in which capacity he will serve for the ensuing year. He will be installed as President at the annual meeting in St. Louis in the Spring of 1964.

Leonard T. Furlow, M.D.

Dr. Furlow has been a member of the Missouri State Medical Association since 1934 and has served on its Council both as a member, and as Chairman in 1962. He is also President of the Missouri State Medical Foundation.

He is a native of Georgia and as such received his academic and medical degrees from Emory University in Atlanta. After graduation in 1925, he was a house officer at Grady Hospital in Atlanta until 1928 when he entered private practice as a general practitioner in Brooksville, Florida. In 1932 Dr. Furlow accepted a fellowship in neurological surgery with Dr. Ernest Sachs at Barnes Hospital. Upon completion of his training, he became associated with Dr. Sachs in the practice of neurological surgery and has advanced to the position of Associate Professor of Clinical Neurological Surgery at Washington University School of Medicine and the Barnes Hospital.

Dr. Furlow is the author of many papers and has been an active leader in his chosen field. He has served on the Council, as President of the St. Louis Medical Society and President of St. Louis Surgical Society. He is a Fellow of the American College of Surgeons and is on the Board of Governors. He is a member and past president of both the Society of Neurological Surgeons and the Harvey Cushing Society and a member of the American Neurological Association, the Southern Neurosurgical Society and the Southern Surgical Association.

One of the outstanding contributions of Dr. Furlow has been to the American Board of Neurological Surgery for it was during his tenure both as secretary for seven years, and subsequently as chairman, that the Neurosurgical Training Programs throughout the United States were reviewed. It was principally through his thoughtful leadership and organizational ability that the Neurosurgical Training Programs were uniformly upgraded.

Dr. Furlow served with the Navy during World War II. At the time of his discharge, he was a Captain and Chief of the Neurosurgical Service at the San Diego Naval Hospital.

Kenneth C. Hollweg, M.D., Kansas City, was installed as President. Other officers elected were John I. Matthews, M.D., Jefferson City, Secretary; Charles R. Doyle, M.D., St. Louis, Treasurer; M. K. Underwood, M.D., Rolla, Carl R. Ferris, M.D., Kansas City, and Paul F. Max, M.D., St. Louis, Vice Presidents; Byron M. Stuart, M.D., Boonville, Chairman of the Council; O. B. Barger, M.D., Harrisonville, Vice Chairman of the Council; William C. Mixson, M.D., Kansas City, Speaker of the House of Delegates; Stanley S. Peterson, M.D., Springfield, Vice Speaker. Richard H. Kiene, M.D., Kansas City, and A. W. Neilson, M.D., St. Louis, were reelected delegates to the AMA and Rolla B. Wray, M.D., Nevada, and Robert Kelley, M.D., St. Louis, alternate delegates.

Ramblings of the Field Secretary

The Spring Annual Joint Meeting of the medical societies of the central Missouri area is again being held at the Whiteman Air Force Base on Wednesday evening, May 15, with the 805th Medical Group at the base serving as host. Medical societies usually taking part in this gala affair include Johnson, Henry, Pettis, Saline, Morgan, Moniteau and Lafayette-Ray.

The meeting will be held at the Whiteman Air Force Base Officers' Club beginning at 6:00 p.m. with a social hour. Dinner (dutch) will then be served followed by the program. The featured speaker for this year's session will be Brigadier General Alonzo Towner, SAC Surgeon. His subject will be "SAC Medical Services." In his discussion he will place special emphasis on the new requirement in missile operations. General Towner is a graduate of the University of Kansas School of Medicine and has a distinguished military service background.

The Air Force golf course will be available to those visiting physicians desiring to play golf in the afternoon prior to the meeting on May 15. James Ewing, Lt. Col., USAF, MSC, Whiteman Air Force Base, Missouri, is in charge of the arrangements for this meeting.

The Annual Spring Clinical Conference at the University of Missouri Medical School will be held on Thursday and Friday, May 16 and 17. The subject material to be discussed this year at the Clinical Conference is "Immunity, Hypersensitivity and Disease." Physicians who are members of the Missouri Academy of General Practice are entitled to Category I PG Credit through attendance at these scientific sessions. During this conference plans are underway to hold a luncheon meeting for junior medical students at the University of Missouri, sponsored jointly by the Rural Health Committee of the Missouri State Medical Association and the Public and Professional Relations Committee of the Missouri Academy of General Practice. The purpose of this luncheon is to discuss with these medical students the advantages of, one, solo practice; two, partnership practice and three, group practice, in various areas of the State of Missouri, and to answer questions that may be posed by these students.

In addition, the President of the State Medical Association and the President of the Missouri Academy will give brief discussions concerning the values of membership in, and the programs of these two important medical organizations.

DEATHS

Nix, Winston K., M.D., Marshall, a graduate of the University of Illinois, 1935; member of Saline County Medical Society; aged 57; died February 16, 1963.

Sandy, Charles, M.D., Prairie Village, Kansas, a graduate of University Medical College of Kansas City, 1909; member of Cooper County Medical Society; aged 90; died February 21, 1963.

Small, Walter L., M.D., Kansas City, a graduate of University Medical College of Kansas City, 1906; member of Jackson County Medical Society; aged 85; died February 25, 1963.

Maas, Herman, M.D., St. Louis, a graduate of the University of Berlin, 1912; member of St. Louis Medical Society; aged 76; died March 6, 1963.

Robertson, LeRoy L., M.D., St. Louis, a graduate of Washington University, 1926; member of St. Louis Medical Society; aged 68; died March 6, 1963.

Harwell, James L., M.D., Poplar Bluff, a graduate of American Medical College, 1906; member of Butler-Ripley-Wayne Medical Society; aged 89; died March 11, 1963.

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News—Personal and Professional

Speaker at the annual meeting of the Greene County Tuberculosis Society in Springfield in early April was **G. Bruce Lemmon**, M.D., Springfield.

The Jasper County Medical Secretaries and Assistants Society had as speaker at a spring meeting **L. H. Ferguson Jr.**, M.D., Joplin.

"Detergents, Soaps and Hexachlorophene" was discussed by **S. S. Barnes**, M.D., Cape Girardeau, at a February meeting of the Cape Girardeau Rotary Club.

A resolution was passed by the Missouri House of Representatives in tribute to the memory of the late **John Zahorsky**, M.D., who died on February 5.

The fourteenth annual Dr. F. G. Thompson Sr. Lectureship will be presented on May 23 at the Clinic Building, St. Joseph, at 8:15 p.m. by Jan. H. Tillisch, M.D., of the Mayo Clinic. His subject will be "Contributions of the Aerospace Age to Medicine."

"Accelerated Auriculoventricular Conduction in Psychiatric Patients" was the subject of an address presented by **Michael Bernreiter**, M.D., Kansas City, at the International College of Angiology meeting in Puerto Rico in February. Dr. Bernreiter also lectured in several hospitals in Puerto Rico on "The Interpretation of the Electrocardiogram."

Recently reelected president of the American Board of Orthopedic Surgery was **Fred C. Reynolds**, M.D., St. Louis.

"Do's and Don'ts of Emergency Care in Industry" was the subject of a talk by **Richard A. Sutter**, M.D., St. Louis, at an annual combined meeting of the Central New York Industrial Nurses Association and the local section of the American Society of Safety Engineers on March 5.

Recently named a Diplomate of the American Board of Pathology was **James S. Nelson**, M.D., St. Louis.

The Jefferson City Business and Professional Women's Club recently had as speaker **John I. Matthews**, M.D., Jefferson City.

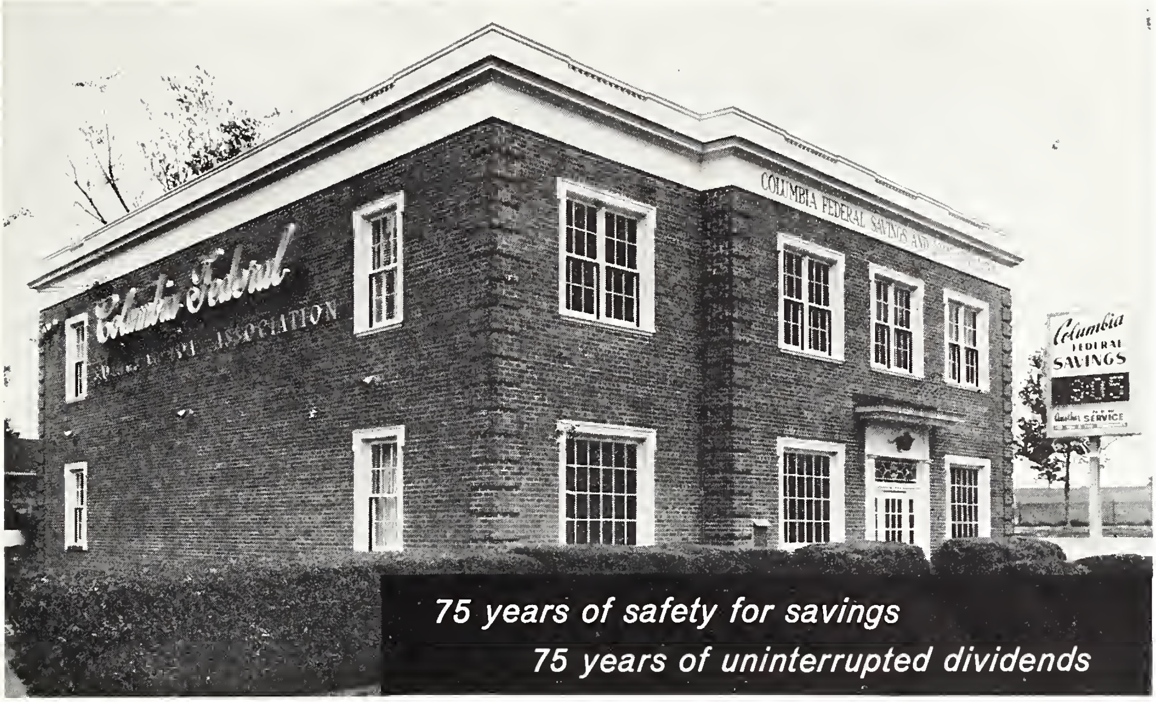
Conducting a nutrition survey and study for the International Committee for Nutrition for National Defense in Brazil is **Robert Shank**, M.D., St. Louis.

The American College of Radiology recently appointed **Armand E. Brodeur**, M.D., St. Louis, as chairman of their committee on curriculum materials.

A postgraduate course in allergy was presented by **Herbert J. Rinkel**, M.D., Kansas City, at the University of Texas School of Medicine from Jan. 28 to Feb. 3.

The Jackson County Medical Secretaries' and Assistants' Society had as speaker on March 19 **Claude J. Hunt**, M.D., Kansas City.

Among Missouri physicians who took part in the program of the American College of Obstetricians and Gynecologists in New York in late April were **Willard M. Allen**, M.D., **S. D. Soule**, M.D., **George J. L. Wulff Jr.**, M.D., and **David Rothman**, M.D., St. Louis.



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County Society News

FIRST DISTRICT

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Buchanan County Medical Society

Mr. Eugene S. Juda Jr., certified public accountant, addressed the March 6 meeting of the Buchanan County Medical Society. The program followed the 6:30 dinner and a business session in the Empire Room of Hotel Robidoux. Mr. Juda spoke on "I.R.S.—The Fourth Party in Medicine."

The speaker gave a comprehensive discussion on the Internal Revenue Code as it pertains to the practice of medicine. His talk included medical deductions, the Keogh Bill, and the new regulations on entertainment and travel. St. Joseph being in the middle of a hot controversy on fluoridation (members of the local society unanimously endorsed the proposal), Mr. Juda noted that the Internal Revenue would not allow as a medical deduction, a claim for the expense of purchasing water to avoid drinking water containing fluoride. The medical profession points out that fluoride is not a medicine but a dietary supplement.

Fifty-five St. Joseph doctors attended the meeting. Dr. John R. McDaniel presided. The speaker was introduced by Dr. Edmund W. Kline.

William Redmond, M.D., *Secretary*

Grand River Medical Society

On March 14, the monthly meeting of the Grand River Medical Society was held at the Strand Hotel in Chillicothe. Thirty-five members, wives and guests attended this enjoyable dinner meeting.

The featured speaker was Dr. P. J. Marco, Associate Professor of Psychiatry at the University of Missouri. He gave a well recieved discussion of "Psychopharmacology and Therapeutics."

The Auxiliary had as their guest Mrs. Burns of Brookfield who presented a book review.

Following a brief business discussion the meeting adjourned.

Jack L. Vinyard, M.D., *Secretary*

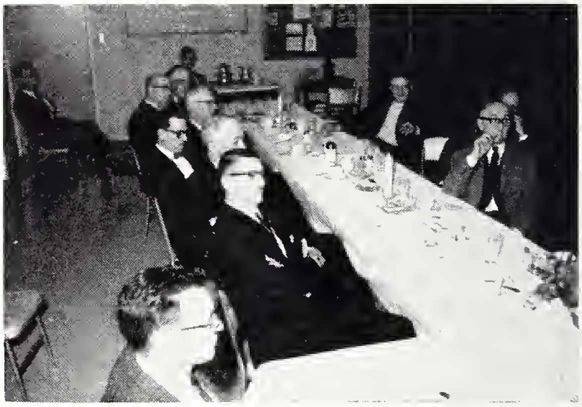
SECOND DISTRICT

HARRY GREENE, HANNIBAL, COUNCILOR

Chariton-Macon-Monroe-Randolph County Medical Society

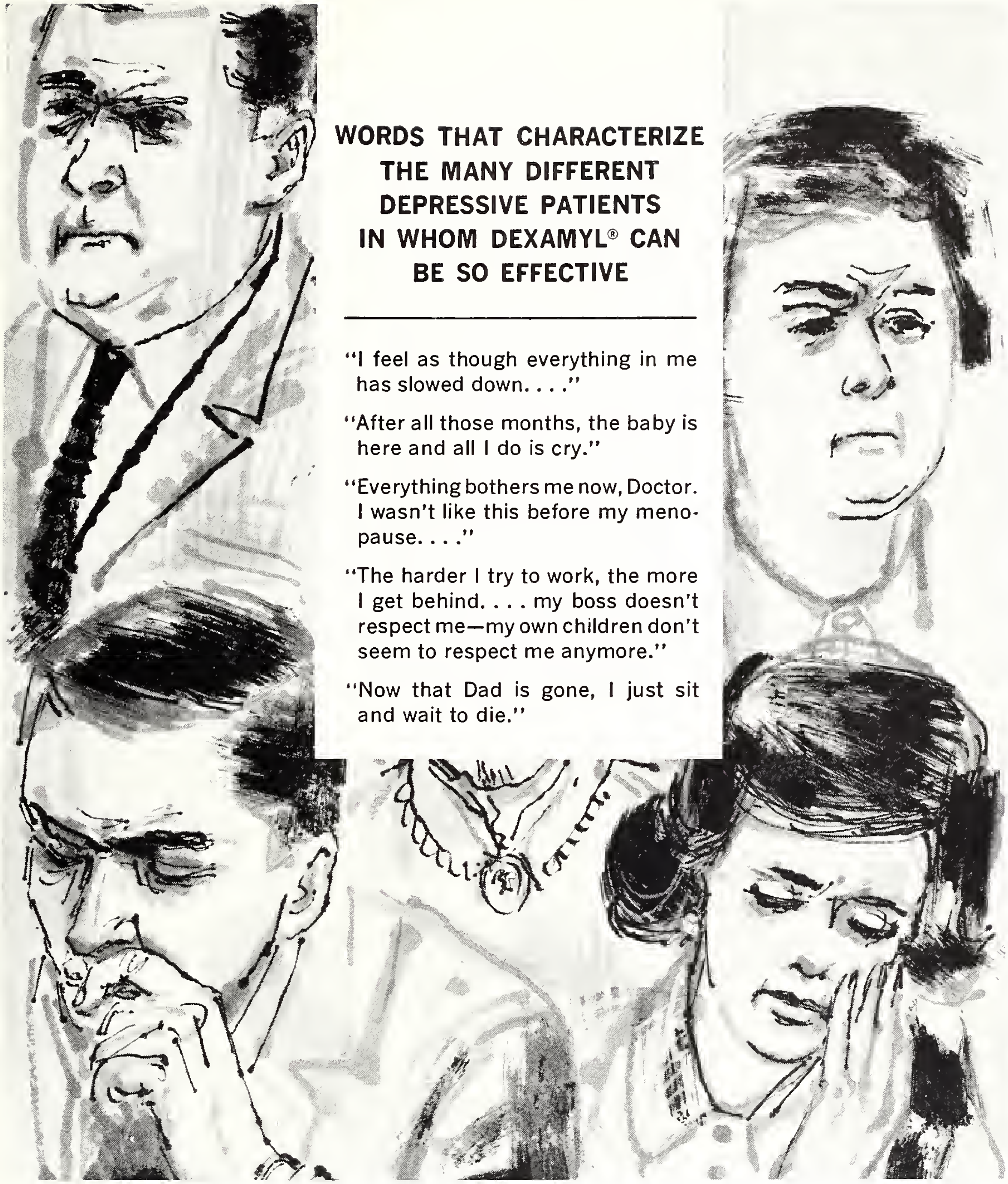
The Chariton-Macon-Monroe-Randolph County Medical Society, at their dinner meeting in Moberly on Thursday night, March 14, were privileged to have as their principal speaker the President of the Missouri State Medical Association, Dr. Don Dowell of Chillicothe. In his remarks he pointed out the necessity of maintaining medicine under the free enterprise system. He cited instances, from personal experience, in areas of the world where medicine is socialized, of the poor medical care which many people receive in such areas. Dr. Dowell discussed a number of matters which were to be discussed by the House of Delegates at the Annual Meeting of the MSMA in Kansas City, March 24-27, and urged that all members of the local Society, who possibly could, be in attendance.

President Dowell addresses the society.



Much interest was shown in President Dowell's remarks.

Members present were: Drs. Donald E. Eggleston, James Campbell and Carl Rinker of Macon County; Josephine Baker, A. P. Rowlette, J. Will Fleming Jr., Thomas S. Fleming, Robert H. Young, C. C. Cohrs, S. R. Szymanski, C. C.



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Smith, L. E. Huber, Robert Hasson and P. V. Dreyer, Randolph County; F. L. Harms and G. C. Rice, Chariton County; and F. A. Barnett, Monroe County.

Guests were Dr. Leopold Lachance of Centralia and Ray McIntyre, Field Secretary of the Missouri State Medical Association.

J. Will Fleming Jr., M.D., *Secretary*

Marion-Ralls-Shelby County Medical Society

The March meeting of the Marion-Ralls-Shelby County Medical Society was held at the Moose Club at Hannibal, on the 19th of March.

Through the courtesy of the G. D. Searle & Company, Randal H. Travis, M.D., addressed the group on the subject, "Diuretics." Dr. Travis is senior instructor in the Department of Physiology of the Western Reserve School of Medicine, Cleveland, Ohio. Dr. Travis' program was wonderfully prepared and well delivered and was extremely interesting. Considerable information was given as to the portion of renal glomerulus that the diuretic in question acted upon and how and why the diuretic exerted its influence.

Incidentally, there was no trace of commercialism involved in the entire discussion as absolutely no diuretic was mentioned in trade name form.

A discussion period of approximately one hour followed this fine presentation which was so heartily received.

The doctors in attendance were Drs. Plowman, Well, Smith, Landau, Bach, Foreman, Green, Strong, Purcell, Burns, Mann, Clisham, Latimer, Sweets, Glascock and the Secretary.

John Walterscheid, M.D., *Secretary*

SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

Lafayette-Ray County Medical Society

The March meeting of the Lafayette-Ray County Medical Society was held on March 12, 1963, in Lexington. A dinner was served following which the meeting was called to order by Dr. W. E. Martin. No new business was brought to order.

The program was then turned over to Mr. Clare V. Carr, representative of G. D. Searle Company. A film was shown by Mr. Carr, which revealed many interesting facts about the research, clinical studies and present use of Norethynodrel, one of the popular drugs in use today. Following the showing of the film, Mr. Carr answered questions concerning the side-effects, present use, possibilities of new uses of the drug.

Wayne Boydston, M.D., *Secretary*

NEW MEMBERS

James E. Crockett, M.D., 4320 Wornall Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Crockett is a native of Kansas, received his preliminary education at Park College, and his M.D. degree at the University of Kansas in 1949.

Harold Endlich, M.D., 6400 Prospect Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. Endlich is a native of Kansas, received his preliminary education at Harvard University, and his M.D. degree at Washington University in 1957.

Charles W. Harris, M.D., 5298 Page Blvd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Harris is a native of Utah, received his preliminary education at Utah State University, and his M.D. degree at St. Louis University in 1930.

Haywood R. Jackson, M.D., University of Kansas Medical Center, Kansas City, Kansas, has become a member of Jackson County Medical Society. Dr. Jackson is a native of Florida, received his preliminary education at Florida A & M University, and his M.D. degree at the University of Kansas in 1958.

Robert O. Luehrs, M.D., 35 N. Central Ave., St. Louis, has become a member of St. Louis County Medical Society. Dr. Luehrs is a native of Oregon, received his preliminary education at Oregon State University, and his M.D. degree at the University of Oregon in 1938.

Violet B. Matovich, M.D., 807 Stadium Rd., Columbia, has become a member of Boone County Medical Society. Dr. Matovich is a native of Indiana, received her preliminary education at Indiana University and her M.D. degree at Indiana University in 1956.

Gene W. Spector, M.D., 216 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Spector is a native of Missouri, received his preliminary education at Amherst College, and his M.D. degree at Yale University in 1959.

Ernest M. Tapp, M.D., 1618 N. Main St., Poplar Bluff, has become a member of Butler-Ripley-Wayne County Medical Society. Dr. Tapp is a native of Ohio, received his prelimi-

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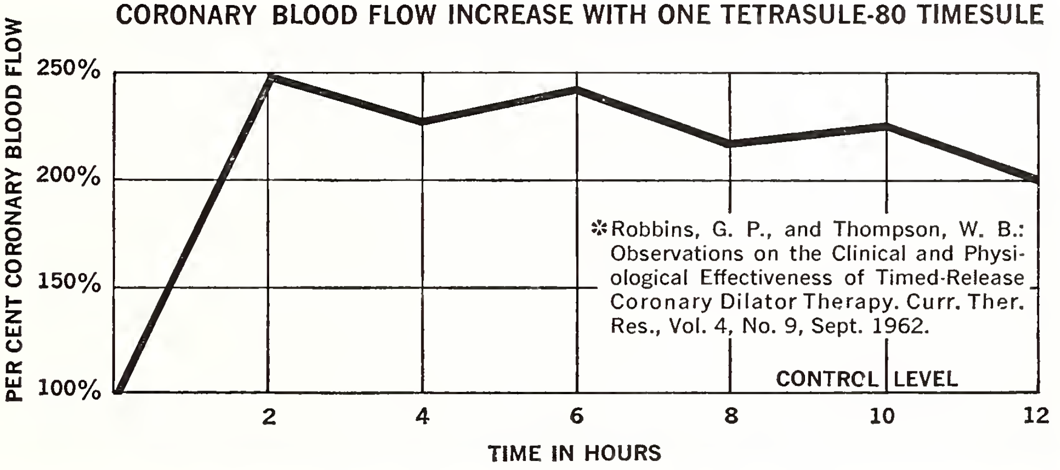

*Robbins, G. P., and Thompson, W. B.: Observations on the Clinical and Physiological Effectiveness of Timed-Release Coronary Dilator Therapy. Curr. Ther. Res., Vol. 4, No. 9, Sept. 1962.

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nary education at Ohio State University, and his M.D. degree at Ohio State University in 1930.

David R. Weakley, M.D., 411 Nichols Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Weakley is a native of Texas, received his preliminary education at Southern Methodist University, and his M.D. degree at Johns Hopkins University in 1957.

MISSOURI ACADEMY OF GENERAL PRACTICE

(Continued from page 420)

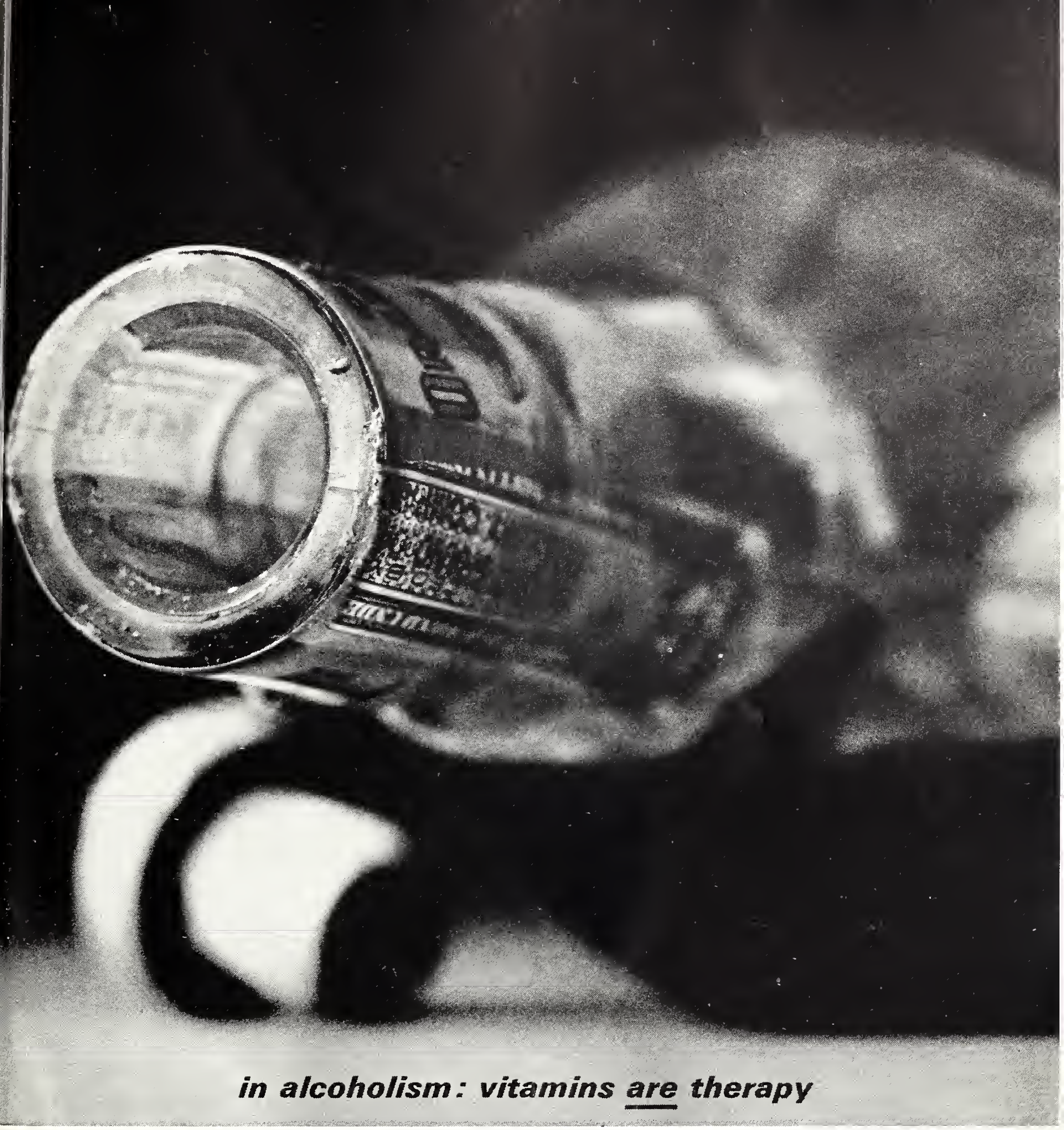
General Practice as proposed would tend to split the membership of the Academy and would serve no greater usefulness than a certificate of proficiency. The matter of the creation of the board was referred to the Reference Committee on Reports of Officers and Committees, where the matter was fully discussed at a committee hearing on Saturday evening, March 30. Certainly, all those who wished to be heard on either side of this issue had that opportunity before the reference committee. When the matter reached the Congress, Sunday afternoon, most delegates supported the reference committee recommendation that a certifying board of general or family practice not be established.

The scientific session opened on Monday at 1:00 p.m. with an outstanding initial program; namely, "The Role of Government in Medical Care." This subject was considered by a panel of authorities with Dr. Walter H. Judd, long time Congressman from Minnesota, as moderator. The panel members were: Dr. Durward Hall, Republican Congressman from Springfield, Mo.; Ivan A. Nestingen, Undersecretary of Health, Education and Welfare; and Congressman Frank T. Bow, Republican of Ohio. Organized medicine side of the controversy relative to government's role in medical care was most ably presented by Dr. Hall who has consistently been an outspoken opponent of all efforts to extend government control over the practice of medicine. The administration's viewpoint was well presented by the number two man in HEW; namely, Undersecretary Nestingen. Congressman Bow discussed his own health insurance bill, which he is proposing, designed to provide benefits for persons 65 and over on a voluntary basis, which he believes answers the objections that many persons have concerning the administration supported King-Anderson proposals as well as the existing Kerr-Mills Law.

The Missouri Academy was represented in the Congress of Delegates by Charles O. Metz, St. Louis, and Roy W. Pearse Jr., Nevada, as delegates and by Edson C. Carrier, Kansas City, and Walter C. Gray, St. Louis, as alternate delegates. Walter T. Gunn, President of the Missouri Academy, was also present throughout all sessions of the Congress of Delegates and specificially took part in the discussion before the reference committee on hospitals.

Dr. Metz also served as Chairman of the Delegates' Dinner Reservation Committee. His responsibility was for the delegates annual reception dinner and dance, which was held in the Red Lacquer Room of the Palmer House on Monday evening, April 1. This affair was for delegates, alternates, officers, spouses and special guests. Approximately 250 persons attended. Special entertainment and music was presented and Dr. Metz is to be congratulated on the handling of this successful affair.

It was a pleasing feeling to learn that a good turn-out of Missouri Academy members was in evidence at this outstanding 15th Annual Assembly of the AAGP.



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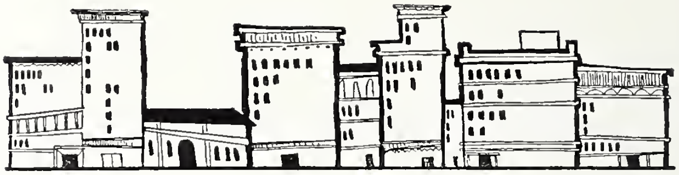

WASHINGTON UNIVERSITY

Erlanger Papers to Be Presented

Dr. Joseph Erlanger, emeritus professor of physiology at Washington University School of Medicine, and Nobel Prize winner in 1944 has given his scientific papers and memorabilia to the Washington University School of Medicine Library, of which he was one of the founders in 1910. Included in the collection are letters from many of the famous scientists of the first half of the 20th century, both American and foreign, and documents relating to medical education just after the Flexner report.

A ceremony to mark this gift will be held on the afternoon of the Washington University School of Medicine's Alumni Day, June 7. At that time Dr. Harvey L. White, head of the physiology department, will speak on Dr. Erlanger's work; Miss Margaret Erlanger will formally present the papers to the school on behalf of her father, and Dr. Edward W. Dempsey, dean of the school, will accept them for the university. A reception and a display of some of the documents will follow. Dr. Erlanger recently celebrated his 89th birthday.

The papers themselves will be microfilmed for preservation and then stored until some years after Dr. Erlanger's death, when they will become available to scholars in person or through copies.

Student Research Discussed

Ten senior students presented the results of their research while in medical school at the annual Senior Research Assembly, April 2. Participants included Robert M. Swenson, "The Determination of High Energy Phosphates in Normal and Cyanide Treated Nerves"; William S. Joffe and Ronald W. Barnet, "Afferent Components of the III, IV and VI Cranial Nerves"; Louis J. Rosenbaum, "Fluorescent Insulin Staining of the Diabetic Eye"; Paul M. Packman, "Pituitary Enzymic Activity in Normal, Gondadectomized, Thyroidectomized, and Adrenalectomized Rats"; Joseph E. Lowenstein, "Determination of the Fat-Free Dry Mass and Total Protein Content of the Fertilized Mouse Ovum"; Robert Waldman, "Distribution of Enzymes in the Rat Kidney"; Leonard Newmark, "Bicarbonate Reabsorption in the Dog With Unilateral Experimental Pyelonephritis"; Stanley J. Birge, "A Study of the Sex Differences in the Metabolism of the Methionine and Ethionine in Rat Liver Slices"; Rodney M. Wishnow, "The Effect of Novobiocin on Bacterial Cell Wall Synthesis," and Allan Walker, "The Anatomical and Physiological Studies on Mongrel Dogs With Artificially Created Main and Left Pulmonary Stenosis."

Special Senses Reviewed

The special senses were discussed at the most recent meeting of the Washington University Medical Society. Aphasia was discussed by Dr. Frank Kleffner, director of the division of speech pathology at Central Institute for the Deaf. Dr. Kleffner also presented some examples of the condition in children. This was the first demonstration held at a medical society meeting in recent years.

Dr. Jay M. Enoch, research assistant professor of ophthalmology, discussed his work on color vision in relation to retinal receptors.

"Glaucoma and Steroid Therapy" was the topic presented by Dr. Bernard Becker, professor and head of the department of ophthalmology.

Library Uses Computer

Research on the use of computers to organize and make accessible the flood of medical and scientific literature now appearing is underway at Washington University School of Medicine Library.

First product of the research project was PHILSOM—Periodical Holdings In the Library of the School Of Medicine. Available to all Medical School departments, PHILSOM lists all journal titles in the library, the exact record of the holdings, title changes, variant titles and notes if the publication is indexed in the Index Medicus, the most complete international guide to medical literature.

The list was produced from IBM cards punched to make possible the automatic checking-in of the 1,100 journal titles received annually by the library.

Stencils for the 180 page mimeographed book were cut in less than 20 minutes by the printer of a 1401 computer, located on the university's main campus. The cards are now being recorded on magnetic tape, which will serve as the basis for future publications of PHILSOM, by a 7072 computer.

A second publication, PHILSOMS—Periodical Holdings In the Library of the School Of Medicine by Subject—will include only currently received journals. Plans are to update and reissue each of the publications at six-month intervals.

Grants

A total of $1,619,123 has been granted to Washington University School of Medicine by the United States Public Health Service in the last three months. Of this amount $1,272,996 was renewal grants for projects already underway. New research and training grants amounted to $346,127.

Largest new research grant was for $225,483, which will be used to pursue a general program of coordinated basic and clinical brain research in the division of neurology and neurosurgery. Directing the program will be Dr. James O'Leary, professor of neurology, and Dr. Henry Schwartz, professor of neurosurgery.

Dr. O'Leary was also named recipient of a research career award, which is the highest award given by the Public Health Service.

Dr. Carl F. Cori, professor of biochemistry, and Dr. Ernst Helmreich, associate professor of biochemistry, received a grant of $60,531, which will be used for a study of the regulation of the breakdown of reserve carbohydrates, stored in the muscle in the form of glycogen, in furnishing the necessary energy for work.

Dr. Lawrence A. Coben, instructor in neurology, recipient of a $16,861 grant, will use radioisotopes to study the mechanism by which iodides are carried across certain natural barriers in the brain, and the manner in which the transport mechanism varies in different locations.

Faculty Honors

Dr. William Sleator, associate professor of biophysics in physiology, has been elected national

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secretary of the Biophysical Society. The Biophysics Society is a young organization of scientists interested in applying the exact measurements and technology of physics to study biological processes and structures.

Dr. Antonio Hernandez Jr., instructor in pediatrics, has been named a Missouri Heart Association Research Fellow for 1963-1964. Dr. Hernandez, who received the Heart Association Award for the current year also, is studying the metabolism of digitalis on the human heart muscles under the conditions of body cooling, open heart surgery and the recovery period after operation.

Lectures

Dr. Renato Dulbecco, professor of biology at the California Institute of Technology, presented the 28th annual Leo Loeb Lecture this year at Washington University School of Medicine. Dr. Dulbecco discussed the role of viruses in carcinogenesis. The lecture is sponsored by Mu chapter of Phi Beta Pi medical social fraternity in honor of the late Dr. Loeb, who was a Medical School staff member for 22 years.

Dr. Francis O. Schmitt, professor of biology at Massachusetts Institute of Technology, presented the annual Seelig lecture in March. Dr. Schmitt discussed basic research on collagen. Dr. Schmitt was a member of the Washington University faculty from 1929 to 1942.

ST. LOUIS UNIVERSITY

Dedication

Dedication of the Max and Anna Tureen Neurological Research Laboratories was held at the David P. Wohl Memorial Mental Health Institute, 1221 S. Grand Blvd., March 22.

The Very Rev. Paul C. Reinert, S.J., University president, dedeciated the new laboratories at which Dr. Louis L. Tureen, chairman, Section of Neurology, and other members of the Tureen family were present. Mr. Nathan Tureen made the response for the Tureen family.

Dedication followed a day-long symposium on Research in "Neurology and Psychiatry" held in Miller Hall, Firmin Desloge Hospital, 1325 S. Grand Blvd. It was the first scientific meeting sponsored by the Department of Neurology and Psychiatry since the opening of the institute.

Dr. Edward T. Auer opened the program at 9:00 a.m. The Rev. Edward J. Drummond, S.J., Vice President for the University's Medical Center, gave the invocation; Dr. G. O. Broun Sr., dean, School of Medicine, delivered the address of welcome. Chairman of the morning session was Dr. Louis L. Tureen.

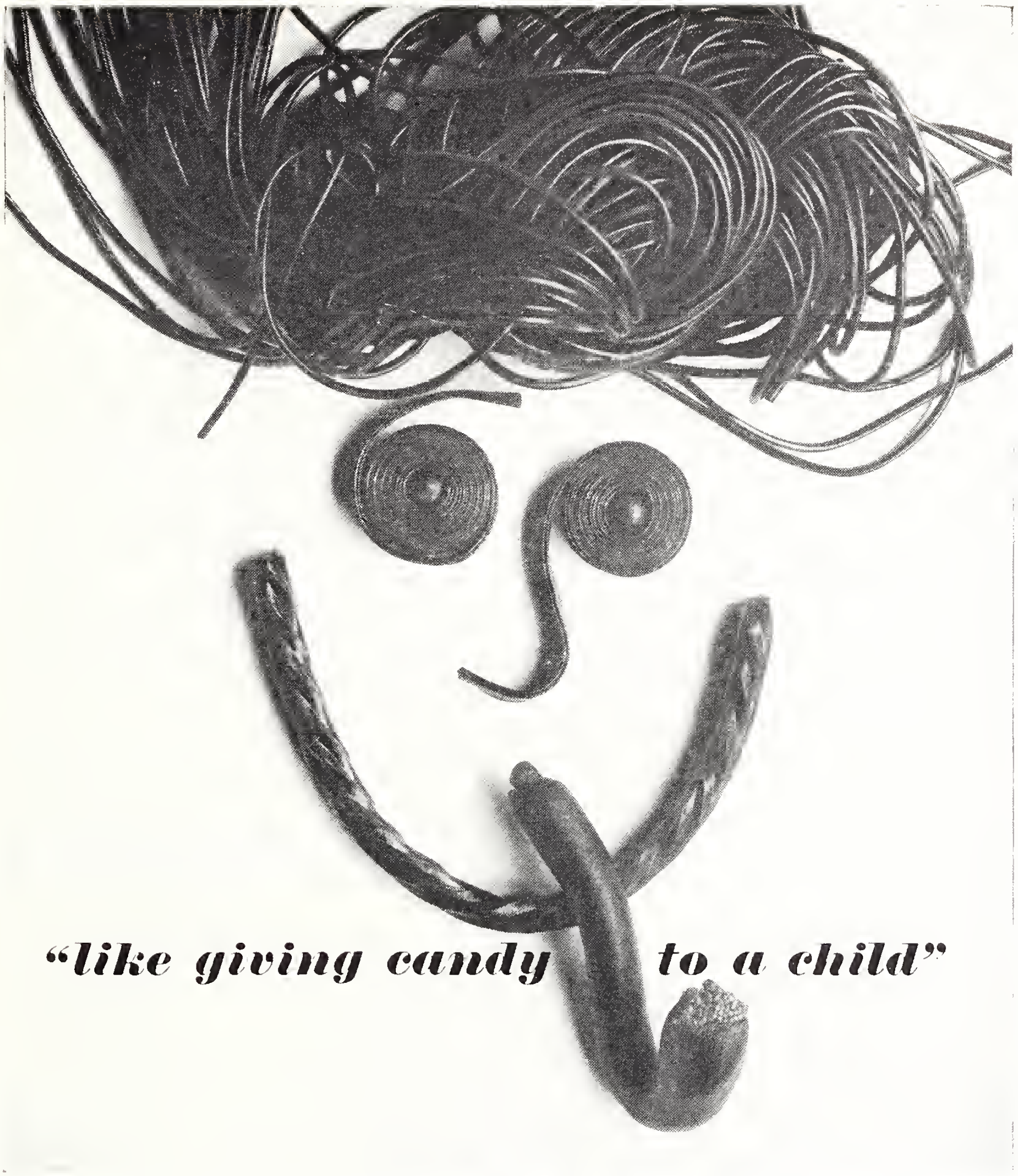
Speakers and their subjects were: Dr. Benjamin Boshes, chairman, Department of Neurology and Psychiatry, Northwestern University, "The Autonomic Nervous System in Human Disease"; Dr. George H. Bishop, professor emeritus of neurophysiology, Washington University, "Pain"; Dr. Richard Gordon, director of research, Monsanto Chemical Company, "Nutritional Effects on the Nervous System"; Rev. Albert S. Moraczewski, O.P., research neuropharmacologist, Houston State Psychiatric Institute, "The Action of Phenothiazines on Brain Mitochondrial Structure and Functions."

Dr. Edward T. Auer was chairman of the afternoon session at 2:00 p.m.

Speakers and their subjects were: Dr. Marvin Stein, associate professor of psychiatry, University of Pennsylvania, "The Psychiatrist in Psychiatric Research"; Dr. Melvin Sabshin, professor of psychiatry, University of Illinois, "The Social Context of Psychiatric Research"; Dr. Philip Q. Seitz, Chicago Psychoanalytic Institute, "Personality Development, Pathogenesis and the Problem of Causality."

Dr. Edward T. Auer, director, David P. Wohl Memorial Mental Health Institute (far right), greets scientists who participated in the first symposium sponsored by St. Louis University School of Medicine's department of neurology and psychiatry since opening of the Institute to out-patients in January.

(Left to right) Dr. Louis L. Tureen, St. Louis University, Dr. George H. Bishop, Professor emeritus of neurophysiology, Washington University; Dr. Richard Gordon, director of research, Monsanto Chemical Company; Dr. Marvin Stein, associate professor of psychiatry, University of Pennsylvania; Dr. Benjamin Boshes, chairman, department of neurology and psychiatry, University of Illinois and Rev. Albert S. Moraczewski, O.P., research neuropharmacologist, Houston State Psychiatric Institute. Dr. Philip Q. Seitz, Chicago Psychoanalytic Institute was missing from picture.



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Establishment of the Max and Anna Tureen Neurological Research Laboratories was made possible by the contribution of $17,500 by the daughters and sons of the late Mr. and Mrs. Max Tureen. An added grant of $5,000 from the Teamsters Local 688, Labor Management Charitable Foundation Fund supported the development. Matching funds amounting to $15,000 made available by the United States Public Health Service, aided in the construction of the laboratories. The new research area is located in the basement of the institute.

Tureen family members present at the Dedication besides Dr. and Mrs. Tureen were his brothers, Bernard, Boris and Nathan Tureen and their wives, his sisters, Mrs. Edward Berger and Mrs. Leon Preston and their husbands. A third sister was not present at the ceremony.

Principal research to be conducted in the laboratories will be in the field of muscular dystrophy. Investigations into multiple sclerosis and other neurologic conditions will also be undertaken. Space has been provided for neurochemistry, neuropathology, electroencephalography and electromyography facilities. Both clinical and experimental animal studies will be conducted.

Election

The Rev. Edward J. Drummond, S.J., Vice President for the Medical Center of St. Louis University, has been reelected Chairman of the Commission on Colleges and Universities for the North Central Association of Colleges and Secondary Schools, the accrediting agency for more than 400 colleges and universities in a 19 state area in the Middle West.

It is the first time in the history of the North Central Association that a chairman has been reelected to that office.

Father Drummond first assumed office as Chairman of the Commission and member of the Executive Board while he was academic vice president at Marquette University in Milwaukee. He was reelected at the recent meeting of the Association held in Chicago at which he gave one of the principal addresses.

The Association's accrediting agency has served an important role in providing a channel

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for the interchange of ideas and information among the college and university commissions of the six regional associations, and for discussion of problems of common concern.

Father Drummond was recently named to one of these commissions designed to study the evaluation of graduate schools with other regional associations. Father Drummond was appointed Vice President for the University's medical center last August. While at Marquette University, he was named dean of the Graduate School in 1944; acting vice president in 1953, and vice president for academic affairs in 1954.

Grant

A three year grant totaling $97,773 has been awarded the Department of Pediatrics by the United States Public Health Service for the support of research studies in the Pediatric Cardiorespiratory Research Laboratory.

The Laboratory, located at Cardinal Glennon Memorial Hospital for Children, was constructed last fall under a private research development grant of $30,000 made to the Department of Pediatrics.

Dr. Leonard F. Fagan, senior instructor of pediatrics and director of the heart clinic at Cardinal Glennon Hospital is director of the laboratory.

Under the new research grant, Dr. Fagan will be associated with Dr. Drummond H. Bowden, associate professor of pathology, School of Medicine, and director of clinical laboratories, Cardinal Glennon Hospital.

The physicians are studying the birth process of animals under varying conditions in an attempt to better evaluate the etiology of hyaline membrane disease. The cause of the disease, which accounts for one third of all newborn deaths, is unknown.

Dr. Fagan will simulate abnormal birth conditions in animals in an attempt to produce the disease. These conditions include asphysia and blood loss and their impact on cardiorespiratory adaptation of the newborn.

Dr. Fagan conducted research studies at Oxford University as a research fellow in 1961. His work in England was concerned with the physiology of the fetus and newborn infant. Later he worked at the University of California Medical Center at Los Angeles.

Dr. Bowden has previously conducted research on changes in the lung during the birth process, and will currently engage in research concerned with morphological studies.

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Results of their work could be of interest to obstetricians, anesthesiologists, pediatricians, pediatric cardiologists and pathologists.

The Ralston Purina Animal Research Farm is collaborating in the research study by breeding and caring for animals to be evaluated.

Alumni Reunion

William C. Trigg Jr., Executive Secretary, Medical Alumni Association, has announced that the annual Alumni Dinner-Dance held in conjunction with the American Medical Association meeting will be held in Atlantic City on June 19. The dinner-dance will begin at 6:00 p.m. in the 22 Club of the Ambassador Hotel.

ELLIS FISCHEL STATE CANCER HOSPITAL

Dr. John S. Spratt Jr. was guest speaker at the Cosmopolitan Club Breakfast Meeting, Columbia, Missouri, February 5, 1963.

Dr. Hal G. Bingham was guest speaker at the Thursday afternoon conference at the Cancer Hospital February 14, 1963. He discussed “Reconstructive Surgery of the Hand.”

Dr. John S. Spratt Jr., Chief Surgeon, and Dr. Jose M. Sala, Chief Radiotherapist, were guest speakers at the Greater Kansas City Chapter of the American Academy of General Practice February 20, 1963. Dr. Spratt discussed “Cancer of the Colon” and Dr. Sala discussed “Cancer of the Skin.”

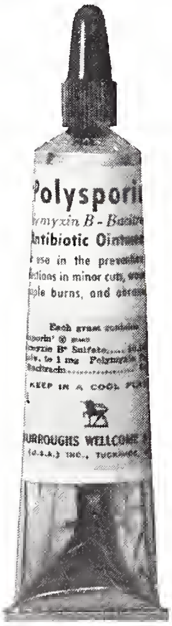
Dr. Grafton A. Smith was guest speaker at the Thursday afternoon conference at the Hospital March 7, 1963. He discussed “Aspects of Intestinal Intubation.”

Dr. Arthur E. Baue was guest speaker at the March 13, 1963, Thursday afternoon conference. He discussed “Peripheral Vascular Surgery.”

Dr. A. M. Evans and Dr. John S. Spratt Jr. participated in the program of the Ozark Medical Society Meeting, Cassville, on April 9, 1963. Dr. Evans discussed “Is Cancer a Virus Disease?” and Dr. Spratt spoke on “Russian Medicine.”

At the Spring Conference of the Consulting Staff of the Ellis Fischel State Cancer Hospital,

(Continued on page 476)



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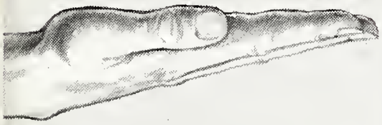
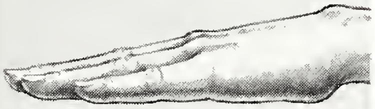
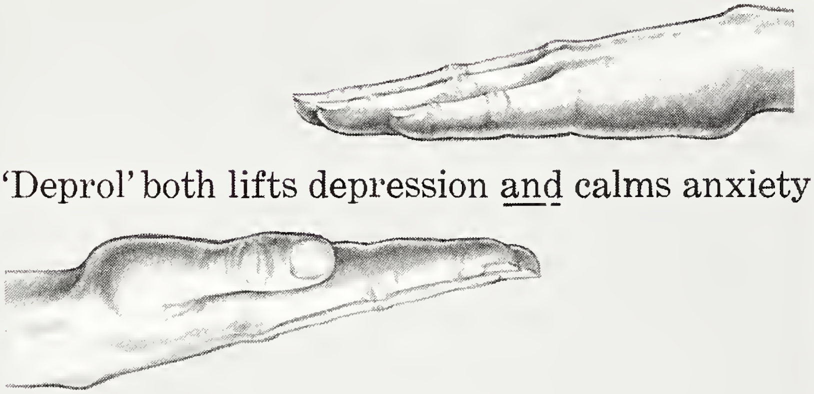




Tranquilizers reduce anxiety



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March 31, 1963, the following program was presented:

"Papillary Carcinomas of the Breast," Dr. Robert T. L. Long, Surgeon.

"Carcinoma of the Cervix," Dr. Jose M. Sala, Chief of Radiotherapy.

"Prognostic Significance of Ureteral Obstruction Associated With Carcinoma of the Cervix," Dr. E. J. Schewe Jr., Secretary, Consulting Staff.

"Primary Carcinoma of the Ureter," Dr. V. L. Robards, Resident in Urology, University of Missouri School of Medicine.

"Rate of Recurrence of Cervical Cancer After Radiotherapy: Importance in Efficient Follow-up," Dr. Ronald Gary, U. S. Public Health Service.

"Detrussogram for the Evaluation of Bladder Function," Dr. James C. Cope, Urological Consultant.

"Technic and Interpretation of Mammograms," Dr. Kenneth L. Rall, Resident in Radiology, University of Missouri School of Medicine.

"Mammography for the Diagnosis of Mammary Cancer: Report of Clinical Experience," Dr. James L. Ross, Resident in Surgery, University of Missouri School of Medicine.

"Perforating Carcinomas of the Large Intestine," Dr. David Sperling, Resident in Surgery, Jewish Hospital.

"Surgical Uses of Lymphography," Dr. William Shieber, Instructor in Surgery, Washington University School of Medicine.

"Biological Behavior of Pulmonary Metastases," Dr. John S. Spratt Jr., Chief Surgeon.

"Surgical Treatment of Pulmonary Metastases," Dr. Charles L. Roper, Asst. Professor of Surgery (Thoracic) Washington University School of Medicine.

"Localized Lymphomas, Surgical Resection or Radiotherapy?" Dr. Verner Waite, Senior Resident in Surgery.

"Plasma Cell Myeloma: Review of 40 Cases Treated at Ellis Fischel State Cancer Hospital," Dr. A. McChesney Evans, Chief of Internal Medicine.

"The Silicone Serosal Interface for Prevention of Postoperative Adhesions," Dr. Galen B. Cook, Resident in Surgery.

"Magnetic Direction of Intestinal Tube Through the Pylorus," Dr. Burl M. Dillard, Senior Resident in Surgery.

UNIVERSITY OF MISSOURI

Meetings

The practical approach to problems of hemorrhagic disorders was held at the Medical Center March 7. Guest faculty members were C. Lockard Conley, M.D., professor of medicine and chief of the hematology division at Johns Hopkins University School of Medicine; and Russell Eilers, M.D., director of the Clinical Laboratories, University of Kansas Medical Center. The symposium covered the clinical and laboratory aspects of the diagnosis, management, and therapy of various primary hemorrhagic disorders.

Five outstanding medical educators comprised the guest faculty at a two day symposium on the "Upper Gastrointestinal Tract" Jan. 31 and Feb. 1 at the University of Missouri Medical Center. Guest lecturers were Eugene F. Bernstein, M.D., department of surgery, University of Minnesota Medical School; Stanley R. Friesen, M.D., professor of surgery, University of Kansas School of Medicine; N. C. Hightower, M.D., department of Clinical Research, Scott and White Clinic, Temple, Tex.; Howard Raskin, M.D., associate professor of medicine (gastroenterology), University of Maryland School of Medicine; and Edward R. Woodward, M.D., professor and chairman of the department of surgery, University of Florida College of Medicine.

Visitors

Dr. Howard M. Kern Jr., director, Training Program in Community Psychiatry at Johns Hopkins University School of Medicine, visited the department of psychiatry at the Medical Center January 21, to learn about the training programs and services related to community psychiatry as developed at the University of Missouri.

Dr. Grey Woodman, staff psychiatrist, Greater Kansas City Mental Health Foundation, visited the psychiatry department January 9 to observe the educational and service program and to speak to the departmental colloquium.

Grants Received

Dr. James A. Green, associate professor of anatomy, and Dr. Fred V. Lucas, professor of pathology, have received a grant from the National Institutes of Health for a study on the "Fine Structure of Endometrium in Pathological States." The grant will run three years and the total sum granted was $50,646.00.

Trips and Talks

Dr. C. R. Talbert Jr., resident physician in medicine, presented a general interview on "Coronary, Cholesterol and Calories," February 5, to be recorded on a local radio station in Marshall.

Dr. Herbert S. Goldberg, professor of microbiology, attended a World Health Organization meeting at Geneva, Switzerland, December 11 to 17. Dr. Goldberg served on a committee of eight world scientists to consider "Public Health

Question:

"What is a tranquilaxant?"

Answer:

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Unsurpassed Tolerance: Less than 3 per cent of patients develop side effects with TRANCOPAL (chlormezanone/Winthrop), such as occasional drowsiness, dizziness, flushing, nausea, depression, weakness and drug rash. If severe, medication should be discontinued. In most patients, however, side effects are minor and do not necessitate interruption of treatment. There are no known contraindications.

Available: 200 mg. Caplets® (green colored, scored), 100 mg. Caplets (peach colored, scored), each in bottles of 100.

Dosage: Adults, 1 Caplet (200 mg.) three or four times daily; in some patients 100 mg. three or four times daily suffices. Children (5 to 12 years), from 50 to 100 mg. three or four times daily.

References: 1. A.M.A. Council on Drugs: J.A.M.A. 183:469 (Feb. 9) 1963. 2. Gruenberg, F.: Curr. Ther. Res. 2:1 (Jan.) 1960.

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Aspects of Antibiotics in Foods and Foodstuffs." While in Europe Dr. Goldberg visited Dr. A. Manten, head, Antibiotics Division at the National Institute of Public Health, Utrecht, Netherlands, for a formal lecture, and discussions on antibiotic resistance. He also visited the Low Temperature Research Station at Cambridge, Eng., and discussed a joint research project underway on anaerobic bacteria, with Dr. Ella Barnes, division of microbiology.

At a conference sponsored by the State Department of Education, held in Springfield, February 11, Dr. Goldberg discussed sanitary aspects of food handling and storage and prevention of food poisoning, with hospital personnel in the Springfield area. The meeting was held at St. John's Hospital.

Dr. Frank B. Engley Jr., professor and chairman of the department of microbiology, presented a discussion on "Practical Problems in the Use of Antibiotics" with Dr. Clement E. Brooke at a meeting of the Henry, Johnson, Pettis, Lafayette-Ray, Saline and adjacent County Medical Societies in Sedalia, January 16. On January 24, he attended an Executive Committee meeting of the Missouri Public Health Association in Jefferson City

Dr. Fikri M. Hanna, assistant professor of pediatrics, attended a meeting in New York from January 28 to February 2, sponsored by the N.I.H. and the New York Academy of Science. Changes in body composition of infants with age and diet, and analysis of weight gain of malnourished infants during recovery were the topics of discussion.

Dr. Clement E. Brooke spoke to the Missouri Veterinary Medical Association, Feb. 10, on "Parasitic Zoonoses and Their Importances in the United States," at a meeting in St. Louis.

Dr. J. E. Randall, associate professor of physiology and biophysics, was invited to present the paper "The Analog Computer in the Physiology Laboratory" at the annual meeting of the American Academy of Occupational Medicine held in Indianapolis, February 6 to 8.

Drs. Fernando Tapia, associate professor, and Rodman P. Kabrick, associate professor in the department of psychiatry, presented a case from the Child Guidance Clinic files which was used as an example of the possible good a school and the community can do for the troubled child, at a meeting of the Missouri Association of Social Welfare held in Columbia, January 28.

Dr. James M. A. Weiss, professor and chairman of the department of psychiatry, attended a Regional Leadership Conference on Mental Health in Dallas, Texas, December 10 to 12. Professional and lay leaders in the field of mental health from the midwestern and mid-southern states met to outline plans for future mental health activities in the southeastern states.

Dr. Philip J. Marco, and Dr. Robert Froelich, assistant professors of psychiatry, attended a meeting of the APA Committee on Psychiatry in Medical Practice in Los Angeles, Calif., February 16 and 17. Psychiatrists from several medical schools in the nation discussed and presented papers on their findings in presenting courses to general practitioners and other medical specialists about psychiatric evaluation and treatment.

Dr. Gwilym S. Lodwick, professor and chairman of the department of radiology, attended a meeting in San Juan, Puerto Rico, as MEND Coordinator of the University of Missouri Medical Center on Jan. 17. On February 3, he attended a meeting of the Board of Directors of the Missouri Radiological Society in St. Louis. Dr. Lodwick was president and founding member of this organization in 1961. From St. Louis he went to Minneapolis for the mid-year meeting of the Board of Trustees of the American Registry of X-Ray Technicians.

On January 27, Dr. Theodore E. Keats, professor of radiology, was a guest panelist on KOMU-TV's Missouri Forum. This program was related to heart disease. Also participating were Drs. Martt and MacKenzie from the Medical Center.

Dr. John J. Modlin, professor and chairman of the department of surgery, appeared as guest speaker at the Kansas City Surgical Society meeting Jan. 23, held in Kansas City. His topic was "Experience with Gas Gangrene in Civilian Surgical Practice."

Dr. Kenneth K. Keown, professor of surgery, chief of the section of anesthesiology, attended a meeting of the Tulsa Academy of General Practice, Jan. 28, in Tulsa, Okla. The topic of discussion was "Anesthesia for the Hypertensive Patient."

Dr. Hugh Stephenson, professor of surgery, spoke to the Columbia Chapter of Licensed Practical Nurses on "Open Heart Procedures," Jan. 14 at the Medical Center. On February 6, he presented "Surgical Complications of Coronary Artery Disease" to the Buchanan County Medical Society in St. Joseph. On January 29, Dr. Stephenson presented the same talk to the Fort Leonard Wood Clinical Society in Rolla.

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Outstanding Record of Effectiveness and Safety

1. Relieves anxiety and anxious depression in a broad spectrum of clinical conditions.
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Usual dosage: 1 or 2 400 mg. tablets t.i.d. **Supplied:** 400 mg. scored tablets, 200 mg. sugar-coated tablets; bottles of 50.

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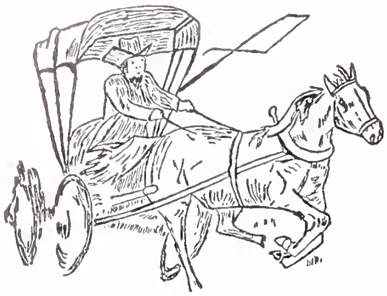
LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

With the completion and occupancy, March 1, of the modern and beautiful new St. Luke's Hospital, Kansas City, Missouri, the institution and organization enter upon a new and promising era. Historically, the hospital is twenty-five years old, having its origin under the sponsorship of the late Bishop Edward R. Atwill, Dr. Herman E. Pearse and Miss Elanore Keeley, who was the first superintendent. The prices and fees for beds and service rendered have been standardized and made to meet the needs and ability to pay of all classes. Beds in the larger wards are $2.50 per day; in the two-bed wards $4. The private rooms vary from $5.00 to $15.00 per day, the latter being suites of bedroom and sitting room and special bath, toilet and closet.

The board of public service, St. Louis, has revoked the license of thirteen dairies and denied license to eleven others for failure to comply with the city ordinance requiring pasteurization of milk. The attorney for the dairymen announced that he would test the validity of the ordinance by appealing it to the courts.

Dr. J. Curtis Lyter, St. Louis, delivered an address before the Chicago Society of Internal Medicine, March 26, 1923, on "The Pathways of the Mediastinum, Lungs, and Pleura." The lecture was based upon experimental work performed at St. Anthony's Hospital during the past three years.

The Salt Lake County Medical Society is arranging for the entertainment of visitors who may be able to stop over enroute, either going to or coming from the meeting at San Francisco.

TWENTY-FIVE YEARS AGO

Dr. Frank D. Dickson, Kansas City, was elected president-elect of the American Orthopedic Association at the Atlantic City session, May 3 to 5.

Dr. Frederick J. Taussig, St. Louis, was appointed a member of the State Cancer Commission by Governor Lloyd C. Stark to fill the vacancy caused by the death of Dr. Ellis Fischel, St. Louis.

The St. Louis Surgical Society met at St. John's Hospital, St. Louis, on April 20. Appearing on the program were Drs. G. T. Gafney, William J. Gallagher, William P. Glennon, Grayson Carroll, J. C. Peden and J. McH. Dean, St. Louis.

The fourth annual session of the American Neisserian Medical Society will be held in Washington, D. C., on May 16 and 17 in the Public Health Auditorium. Dr. Perrin H. Long, Baltimore, Johns Hopkins Hospital, will deliver the principal address.

TEN YEARS AGO

The Financial Statement for 1952 for the State Association contains this interesting information: The financial result of the Association's activities for the year 1952, was an excess of expenses over income in the amount of $15.84. It should be noted that special assessments for the year 1951, in the amount of $2,840.00 were collected and taken into income in the current period. Legal expense in the amount of $1,114.76 was paid in connection with the Audrain County Hospital suit in which the Missouri State Medical Association is named as a codefendant. Dues for the year 1953, have been increased to $25.00 for active members and $12.50 for junior members. Prepaid dues at December 31, 1952, includes collections at the new rates. Advance payments in the amount of $2,730.00 were made by exhibitors in 1952 for exhibit space at the 1963 annual session and these payments will be taken into income when earned in 1953.

Blue Cross enrollment in the United States in 1937 was 608,021, approximately two thirds of the population of St. Louis. In 1952, enrollment was over 40 million, about one fourth the population of the United States.

The Missouri State Senate has confirmed James R. Amos, M.D., formerly of Springfield, as Director of the Missouri Division of Health.

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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WASHINGTON

A presidential advisory commission urged a massive attack by the federal government on illicit traffic in narcotics and dangerous drugs.

The commission recommended establishment of a special unit of investigators and lawyers in the Department of Justice to hunt down and prosecute big-time smugglers and sellers.

For the addict, the commission suggests more emphasis on rehabilitation rather than punishment. The commission said penalties in federal narcotics laws are too rigid for some of the lesser offenses and urged that these be relaxed to give courts more discretion in dealing with these offenders.

In an interim report, the commission also touched on the controversial question of whether drugs should be dispensed to addicts in treatment by physicians. It recommended that the American Medical Association and the National Research Council "submit definitive statements as to what constitutes legitimate medical treatment of an addict, both in and out of institutions."

Other major recommendations included: Stricter control of the manufacture and use of the so-called "dangerous drugs," such as barbiturates and amphetamines; a comprehensive research program into all phases of drug abuse; establishment of a joint United States-Mexican commission to control the illicit traffic of narcotics and drugs from Mexico into the United States.

On the same day, the New York Academy of Medicine issued a report sharply attacking what it called the Federal Bureau of Narcotics' "punitive attitude" of treating drug addicts as criminals and attempting to control addiction by imposing stiff legal penalties.

The report of the New York physicians charged the Bureau of Narcotics with forcing "unsound" medical treatment of drug addicts, intimidating doctors who attempt to treat addicts and generally holding back "progress in the conquest of addiction."

* * *

The Department of Health, Education and Welfare has licensed the manufacture of both a live-virus and a killed-virus measles vaccine.

Surgeon General Luther L. Terry of the Public Health Service urged inoculation of any child under the age of 6 who had not had measles.

Dr. Hugh H. Hussey, director of the American Medical Association's Division of Scientific Activities, said the new vaccines made it possible to launch an all-out attack against one of the most common childhood diseases.

Development of the measles vaccines stemmed from the work of Nobel prize winner, Dr. John Enders of Harvard University, and an associate, Dr. Thomas Peebles, who isolated a strain of the measles virus in 1954. From this original strain of the virus, designated the Edmonston strain, both the live and the killed vaccines have been produced.

Over the last several years, the vaccines have been successfully tested in both this country and abroad. Nearly 50,000 children in the United States alone have received these vaccines in field trials. Celebrezze characterized the field trials as "a long and painstaking evaluation" and said that "this was made possible by the cooperative efforts of scientists—both in and out of government—by physicians, the pharmaceutical industry, and thousands of unselfish and courageous parents who have permitted their children to participate in the field trials."

A Surgeon General's advisory committee on measles control, composed of government and non-government experts, suggested most physicians would want to administer the live vaccine, with an accompanying shot of gamma globulin to reduce reactions. One injection of the live vaccine has conferred complete immunity to more than 95 per cent of those vaccinated and susceptible to measles. But when given alone it produces side reactions, including a rash and a fever of at least 103 F. in 30 per cent or more of those vaccinated.

The advisory committee said the killed vaccine, because of its poorer immunizing qualities, should be used only where the live product was not suitable.

Experts said the live vaccine's protection was as good as that resulting from the natural disease and had been demonstrated to last more than four years.

The estimated number of cases of measles in the U. S. was 6.8 million in 1962 and averages at least 4 million a year annually. In 1961 there were 434 deaths from measles.

Government health officials said they anticipated no federal financing or distribution of the measles vaccine. It was expected the distribution will be through physicians in private practice or through community "well baby" clinics.

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SIDE EFFECTS: On increased dosage blurred vision, dry mouth or difficult urination may occasionally occur.

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hyoscyamine sulfate	0.1037 mg.
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hyoscine hydrobromide	0.0065 mg.
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]

Across
Missouri

What Kind of Medicare?

Recently the Jefferson City *News-Tribune* not only quoted the Association but agreed with its views in the following editorial:

Speaking through its President, the Missouri State Medical Association has reaffirmed its support of a pair of bills now awaiting the consideration of the members of the Missouri General Assembly. The measures are Senate Bill 140 and Senate Bill 148. They've been introduced in the General Assembly by State Senator William J. Cason, the Democrat from Clinton. And they've been designed to help meet the special problems involved in providing medical care for the elderly of our state, as those problems were uncovered by an Interim Committee of the State Legislature.

Yesterday, Dr. Kenneth C. Hollweg of Kansas City, the President of the Missouri State Medical Association, expressed his organization's support of Senator Cason's proposals in these words:

"Now that the Legislature has set the state's financial course, the physicians of Missouri want to express again their firm support for these proposals to provide increased health care benefits for those aged citizens of our state who are in need of such aid.

"We are firmly devoted to the principle that every person should receive needed health care, regardless of ability to pay. Under the Kerr-Mills approach to medical assistance, Missouri can assure that care is provided for those people over 65 who are in need, efficiently and at nominal cost.

"The improved program set forth in the Cason Bills would cost the people of Missouri only about $2.5 million a year for the first two years. For this modest cost, we will gain a vast improvement in the state program of medical care for our aged citizens who are in need. Inpatient hospital care will be furnished to persons who are certified by their physicians as requiring hospitalization for serious illness or injury, allowances for patients in nursing homes will be increased, and certain dental care and prescribed drugs and medicine will be provided.

"The Interim Committee of the Legislature made an intensive study of the problems of the aged in the State of Missouri, and it is their opinion that the Cason Bills present a program of care tailor-made for the Missouri problem and the financial capabilities of our state. The medical profession gives its full support to passage of these proposals."

So said the President of the Missouri State Medical Association yesterday in support of State Senator Cason's proposals for beginning participation by Missouri in the federal government's Kerr-Mills program.

The zealots for a medicare program financed through increases in social security taxes are, naturally enough, not enthusiastic about the Cason proposals. They say that the Kerr-Mills approach does not go far enough, and they do not scruple at accusing the members of the medical profession of supporting the Kerr-Mills approach out of motives of the basest greed.

We are not so sanguine about what is possible in the area of medical care for the elderly by means of legislation as are many of those who advocate an all-out program of medicare, financed through social security tax increases. Neither are we so cynical as they appear to be about the motives of Missouri's doctors in supporting the Kerr-Mills approach.

The question is not now one . . . nor has it ever been one . . . of whether the Kerr-Mills approach is the ideal approach in the solution of this problem. It is a long way from that. Ideally, the federal government would have no part to play in the solution of this problem at all, and medical care for the elderly of Missouri who cannot afford to pay for it would be paid for by their families, their churches, the private organizations to which they belong, and the state.

The question, rather, is one of whether the Kerr-Mills approach is one which allows Missourians a maximal amount of federal assistance for the federal tax dollars they spend with a min-

(Continued on page 502)

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WINSTROL (stanozolol/Winthrop), a heterocyclic steroid, combines highest potency* with outstanding tolerance, stimulates appetite and promotes weight gain . . . restores a positive metabolic balance. It counteracts the catabolic effects of concomitant corticosteroid or ACTH therapy. WINSTROL (stanozolol/Winthrop) rebuilds body tissue while it builds strength, confidence and a sense of well-being in conditions associated with excess protein breakdown, insufficient protein intake and inadequate nitrogen and mineral retention.

Side Effects and Precautions: Prolonged administration can produce mild hirsutism, acne or voice change. In an occasional patient, edema has been observed and in young women the menstrual periods have been milder and shorter. These side effects are reversible, and patients receiving prolonged treatment should be examined and questioned periodically so that, should side effects appear, the dosage may be reduced or administration of the drug discontinued for a time.

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Dosage: Usual adult dose, 1 tablet t.i.d. before or with meals; young women, 1 tablet b.i.d.; children (school age): up to 1 tablet t.i.d.; children (preschool age): ½ tablet b.i.d. Available as scored tablets of 2 mg. in bottles of 100. For best results, administer with a high protein diet.

*ANIMAL DATA

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C. G. STAUFFACHER, M.D., Secretary

Missouri Academy of General Practice

The Education Committee of the MAGP reports that the program for the 15th Annual Scientific Assembly at the Muehlebach Hotel in Kansas City, Saturday and Sunday, October 26-27, 1963, is practically complete. The Committee feels that the program this year will be one of the best the Academy has ever held. It is centered around four symposiums; namely, Symposium of Physical Medicine and Rehabilitation; Symposium on EENT Problems; Symposium on Neurology; and Symposium on Related Medical and Surgical Problems.

Speakers who will appear on the first symposium include: Joseph N. Schaeffer, M.D., Chairman, Department of Physical Medicine and Rehabilitation, Wayne University School of Medicine, Detroit, Mich.; Don L. Rose, M.D., Chairman, Department of Physical Medicine, University of Kansas School of Medicine, Kansas City, Kan.; and Lester E. Wolcott, M.D., Chief, Section of Physical Medicine and Rehabilitation, University of Missouri Medical School, Columbia.

Speakers on the second symposium will be: Daniel C. Baker Jr., M.D., New York City, and G. O. Proud, M.D., Professor of Otolaryngology, Kansas University Medical School, Kansas City, Kan., on ENT Problems; Harold Gifford, M.D., Omaha, Nebraska, and Larry L. Calkins, M.D., Department of Ophthalmology, University of Kansas Medical School, Kansas City, Kan., on Eye Problems.

Speakers on the third symposium are: C. H. Millikan, M.D., and Frank M. Howard Jr., of the Mayo Clinic, Rochester, Minn.; Dewey K. Ziegler, M.D., Kansas City, and Violet Matovich, M.D., Chief, Division of Neurology, University of Missouri Medical School, Columbia.

Speakers on the fourth symposium include: Ormand C. Julian, M.D., Professor of Surgery, University of Illinois College of Medicine, Chicago; and William M. McConahey, M.D., Mayo Clinic, Rochester.

The first two symposiums as listed will be given on Saturday morning and Saturday afternoon, October 26, and the latter two on Sunday morning and Sunday afternoon, October 27. Panel discussions with questions from the audience on the subject matter presented will be held at the close of each symposium.

President Walter Gunn informs us that we are most fortunate in having such an outstanding banquet speaker this year; namely, Hans G. Clamann, M.D., Chief, Department of Bioastronautics, School of Aerospace Medicine, Brooks Air Force Base, Dallas, Texas. It is believed that Dr. Clamann's address will catch the interest of the doctors' wives and guests, as well as that of the doctors themselves.

To date more than 30 exhibitors have reserved space for the presentation of their products at this 15th Annual Academy Assembly.

We hope you will now, if you have not already, mark on your calendar the dates of Saturday and Sunday, October 26-27, 1963, for a two day sojourn at the Muehlebach Hotel in Kansas City, Mo.

ACROSS MISSOURI

(Continued from page 500)

imal amount of that federal compulsion which is so conspicuous a part of all the federal medicare programs based on social security tax increases which have thus far been advanced.

And we believe now, as we have believed all along, that the answer to that second question is yes.

One of Missouri's most distinguished Democrats is State Senator Albert M. Spradling, of Cape Girardeau, the Speaker Pro Tem of the Missouri Senate. Senator Spradling told the St. Louis County Medical Society the other day that the Kerr-Mills medical aid programs would be a bulwark against the development of socialized medicine in Missouri. We believe that Senator Spradling was right about that, and that Senator Cason's bills deserve the support of all those Missourians who want to see federal compulsion kept out of the administration of any new program of medical care help for Missouri's aged which is developed to as great an extent as is possible, and for just as long as is possible.

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Energizers may stimulate the depressed patient, but they often aggravate anxiety and insomnia. Tranquilizers may help the anxious patient, but they often deepen depression and emotional fatigue.

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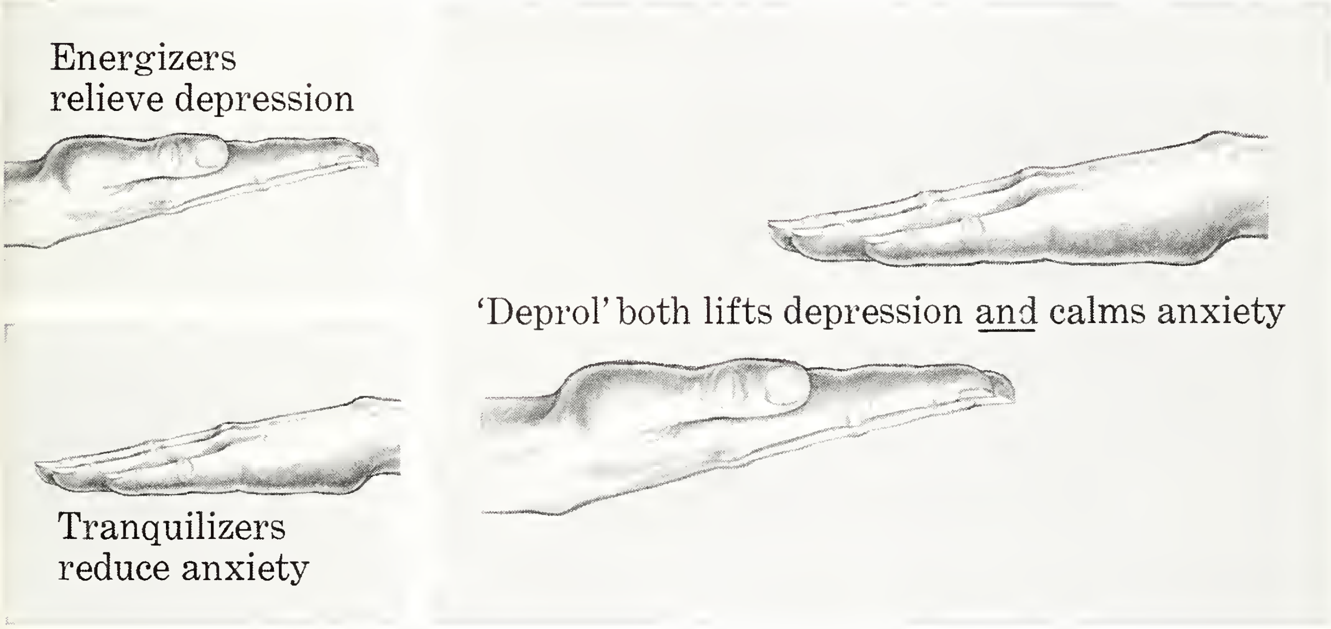
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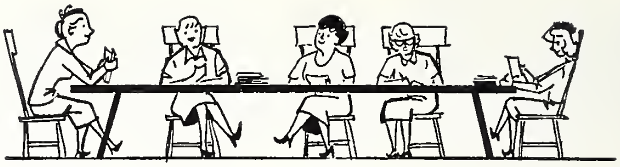

With the passage of the bill to increase the sales tax to 3 per cent, effective in October, we are now assured of adequate financing for the state's present priority programs. Under the heading of "priority" is Dr. Ulett's proposal for three early detection intensive treatment centers at Kansas City, Columbia and St. Louis. While this does not solve our problems by any means, it is at least a step in the right direction and is similar to the kind of successful programs being promoted in other states. Bills are also pending in both the state Senate and House to increase and expand the services for the welfare patients and help senior citizens. Again, it is only a start. In order to implement Kerr-Mills in Missouri, necessary funds must be provided.

Mrs. L. S. Crispell

We face a continuing fight against the "new" King-Anderson Bill—House Bill 3920 and Senate Bill 880. As one writer has pointed out, "The job is to come up with proposals worthy of public support, and, at the same time leave no stone unturned to convince Congress and the people in general that any invasion of federal power—where it is not needed—is a permanent invasion. No professional man or patriotic citizen who believes in the private enterprise system, will minimize the present danger." Medicine's challenge to "Fedicare" is called "Operation Hometown." "Operation Hometown" will be a continuing, intensive national program designed to offset the mounting pressure for King-Anderson legislation in the 88th Congress. The program will encompass all areas of information. Each individual or group will be responsible for making the facts known to fellow citizens everywhere. To provide speakers for any and all appropriate public audiences; to enlist help and provide a continuous flow of information through news media; to distribute informative and educational material disseminating the facts on this issue to the public; to provide accurate information to all Congressmen and to promote correspondence to newspapers and with the Congressmen; these will be the aims of the program being launched by the AMA and it will be the responsibility of the county and state auxiliaries to assist in every way possible in the campaign.

On April 17, I left on my first trip since assuming office. I visited with the members of the Dunklin County Auxiliary at Kennett and Hornersville down in the "Bootheel." Although this is a small group, it is an active one—participating in their community affairs and maintaining a Nurses Scholarship Loan Fund. Jen Zimmerman, their attractive President, is also state Chairman of Rural Health. From there, I drove up to Poplar Bluff where the members graciously met a week earlier to meet my schedule. Jerry Post has headed the Butler-Ripley-Wayne Auxiliary, our youngest, from the beginning and her reports have indicated their interest and enthusiasm. Despite many family responsibilities, she and her members are enrolled in a Medical Self-Help Course.

Next month will be a busy one. I will be visiting two states—Oklahoma and Illinois—to hear their reports. Audrain County Auxiliary, with 15 members, is planning a tea for the whole Fifth District. This district is in the heart of the state and has 10 people who serve the state organization in some capacity. From Mexico, I go on to the installation luncheon and meeting of the St. Louis County Auxiliary and then home. By then, it will be time to celebrate the activities with my daughter, Amelia, who is graduating with "first honors" from high school and get Pam, our youngest, ready to visit our oldest daughter in California.

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HUBERT J. VAN PEENEN, M.D.; MYRA PEARMAN, A.B., M.T. (ASCP),
and **JAMES F. DAVENPORT, M.D.,** ***Columbia***

Isoantibodies as a Blood Transfusion Problem: The Untransfusible Patient

While blood transfusion has been a major therapeutic agent for many years, it is not without dangers. Isoantibodies occur frequently enough to be a hazard if not detected and thorough cross-matching should be routine.

Dr. Van Peenen is Assistant Professor of Pathology; Miss Pearman is Chief Technologist of Blood Bank, and Dr. Davenport is Assistant Professor of Pathology, all of the Department of Pathology of the University of Missouri Medical Center.

Blood transfusion has been in wide use for more than twenty years. It has become a major therapeutic agent. As with all potent therapy it has its dangers. Serum hepatitis is a feared complication. Another complication is the production of isoantibodies to blood group antigens. Isoantibodies may be iatrogenically induced by blood transfusion or may develop during pregnancy as a result of maternal-fetal incompatibility. Isoantibodies become a problem when they make it difficult or impossible to obtain suitable blood for transfusion.

Some patients develop panagglutinins which agglutinate all red cells including their own. This, too, makes cross-matching difficult or impossible. This paper discusses the importance of isoantibodies and panagglutinins as causes of untransfusibility.

Materials and Methods

At the University of Missouri Medical Center, cross matches are performed by a combination of techniques. Major and minor cross matches between recipient and donor blood are performed in both saline and high protein media. The major saline and major albumin tests are subsequently subjected to the Coombs' test. With this technic almost all antibodies are easily detected. Without the use of the antiglobulin or Coombs' test, many antibodies of the "incomplete" type would be overlooked.[1] When discovered, antibodies are identified by reacting them with panels of red cells of known antigen distribution.

The files of the blood bank were reviewed for the period January 1957 to October 1962. All antibodies detected during this time were recorded and patient charts consulted where appropriate.

Discussion

During the period of study approximately 20,000 transfusions were given at the Medical Center. The antibodies detected are shown in tables 1 and 2. The tables show antibodies discovered in the five year period by category and year in which recorded first. Numbers in parenthesis are the total discovered in each category. Totals and the sums from yearly distribution do not always correspond because year of discovery was not always recorded.

TABLE 1

OBSTETRICAL ANTIBODIES

Category	*1957*	*1958*	*1959*	*1960*	*1961*	*1962*
Anti-D (69)	10	10	3	8	16	17
Anti-C (9)	2	1		1	1	2
Anti-E (10)	1	2		1	2	3
Anti-c (7)		2		3		2
Total (95)	13	15	3	13	19	24

TABLE 2

NON-OBSTETRICAL ISOANTIBODIES

Category	*1957*	*1958*	*1959*	*1960*	*1961*	*1962*
Anti-A (1)			1			
Anti-D (4)	1		1	1		1
Anti-Le^{a} (8)			1	1	2	3
Anti-Le^{b} (5)	1		1	2		
Anti-K (5)	1			1	3	
Anti-jK^{a} (2)					1	1
Anti-jK^{b} (3)				1	1	1
Anti-Fy^{a} (2)						2
Anti-M (3)				1	1	
Anti-P (3)					2	1
Anti-S (3)						3
Anti-Lu^{a} (1)					1	
Specificity not determined (4)						
Panagglutinins (9)		2	1		3	2
Grand Total 53						

TABLE 3

PANAGGLUTININS

Patient	*Diagnosis*	*Prior Transfusion*
E.C.	**Lymphosarcoma**	**none**
D.C.	**Stem Cell Leukemia**	**none**
O.H.	**Acquired Hemolytic Anemia**	**none**
I.M.	**Acquired Hemolytic Anemia**	**none**
C.W.	**Chronic Lymphocytic Leukemia**	**none**
L.G.	**Lupus Erythematosus, Hemolytic Anemia**	**100 units**
C.W.	**(Records not Available)**	**none**
A.K.	**Adenocarcinoma of Breast**	**2**
E.G.	**Leiomyosarcoma of Intestine**	**14**

There was a total of 148 antibodies. Ninety-five of these were caused by maternal-fetal incompatibility and are listed as "obstetrical." Of the non-obstetrical antibodies, 44 were specific for a single antigen and were presumably induced by blood transfusion though some of the Lewis (Le) antibodies may have been naturally occurring. Nine others were nonspecific panagglutinins and reacted with all cells against which they were tested. They are summarized in table 3. The incidence and distribution of antibodies in this series is similar to that reported from other institutions.[2]

Relatively few of the patients studied in this report became untransfusible. In theory, patients who are difficult or impossible to transfuse because of isoantibodies can be divided into four categories:

I. Those with antibodies to a public antigen.

II. Those with multiple antibodies, each to a different antigen.

III. Those with rare blood types and one or more antibodies.

IV. Those with panagglutinins.

Public antigens, such as Vel, I, Yt^{a} and Sm^{a} are present in more than 99 per cent of the population. The rare person who does not carry the antigen will inevitably be exposed to it on his first transfusion. Antibodies do not form often because antigen-negative recipients are so rare and because public antigens are not potent sensitizers. However, once a patient negative for a public antigen develops an antibody to the antigen he becomes untransfusible. It would be necessary to screen thousands of units of blood to find one which was otherwise compatible to such a patient and also negative for the antigen involved. Sometimes close relatives of these patients also lack the antigen and are often the only sources of compatible blood.

The second category presents a similar problem. For example, if anti-D, anti-c and anti-e were all present in the same patient it would be difficult to find a donor negative in all three antigens. Fortunately, such cases are unusual, though less bothersome combinations of antibodies are more common. In this series there are no patients in category I but there are four patients in category II with multiple antibodies induced by transfusion and seven with multiple antibodies induced by pregnancy. One of the transfusion-induced patients became essentially untransfusible.

Case 1. W. D., a 52 year old man had several admissions for upper gastrointestinal bleeding of undetermined cause. His blood type was O, Rh$_{0}$(D) positive. He was transfused several times. On his last admission he was found to have antibodies to *c* and *E*. Laparotomy was performed without discovery of a bleeding point. He was transfused with a supposedly compatible unit of blood and suffered a hemolytic transfusion reaction. Further work-up revealed that he had an antibody to jK^{b} (Kidd *b*) in addition to his anti-c and anti-E. No blood of suitable type could be obtained for cross match, but the patient recovered without transfusion.

Patients in the third category have rare blood types such as AB, Rh(D) negative. When they develop immune antibodies they become relatively untransfusible because of the marked decrease in potential donors. Only 1 to 2 per cent of the donor population is AB negative and many AB negative persons will not be suitable donors because they carry the antigen to which the recipient is sensitized. In such cases only one donor in 500 may be truly compatible.

Case 2. M. R., a 75 year old man was admitted with a ruptured esophagus and mediastinal abscess. He was type AB, Rh(D) negative. The abscess was drained. He was given one unit of blood at surgery. He convalesced slowly. Two weeks later he was found to be incompatible with all available AB negative blood and to have developed an anti-jK^b antibody. jK^b is an antigen carried by 75 per cent of the population. Thus only one fourth of all AB negative donors are potentially compatible. While it would have been possible to transfuse this patient with A, B, or O, Rh specific, iK^b negative blood, the patient was managed with blood substitutes and finally discharged as improved.

The largest group of untransfusible patients is in category IV, those with panagglutinins. Panagglutinins are presumed to be autoantibodies. They are probably due to some aberration of the immune mechanism so that patients develop antibodies against their own red cells. The majority of panagglutinins are nonspecific and react with all other red cells as well as the patients'. They may be either "warm" and react optimally at body temperature or "cold" and react optimally at 4-C. Cold panagglutinins are the the most common but if present in high titer may appear to be warm and act at body temperature.

It is unlikely that panagglutinins are ever induced by blood transfusion. They are most frequently caused by reticuloendothelial disease, hemolytic anemia and lymphosarcoma.[3] In this series nine patients had nonspecific panagglutinins and few of them had ever been transfused. In none of them does the antibody appear to have been transfusion induced.

To recapitulate, during the five year period studied a total of 148 antibodies were discovered. Ninety-five of these were obstetrically induced. Nine were panagglutinins caused by underlying disease and not by transfusion. Of the 44 specific antibodies caused by transfusion, none caused absolute untransfusibility and only two caused major cross-matching difficulty.

Twice as many antibodies are caused by maternal-fetal incompatibility as by blood transfusion. Four times as many patients are rendered untransfusible by underlying disease as by transfusion-induced antibodies. Transfusion induced untransfusibility is rare and fear of it should not inhibit the use of blood transfusion. There are better reasons for using blood sparingly. Good transfusion services will nearly always be able to find suitable blood except for patients with panagglutinins.

Isoantibodies may be a hazard when they are not recognized. This occurs when careful and thorough cross-matching technics are not routinely used. The great majority of isoantibodies are detected only by routine use of the Coombs' antiglobulin test. Failure to detect antibodies occasionally results in fatal transfusion reactions.[4]

SUMMARY AND CONCLUSIONS

1. Panagglutinins are not common but are a far more frequent cause of untransfusibility than transfusion-induced isoantibodies.
2. Isoantibodies practically never render a patient absolutely untransfusible. They may make cross-matching difficult, however, and endanger the patient by causing delay in emergency situations.
3. Isoantibodies occur frequently enough to be a hazard if they are not detected. Careful and thorough cross-matching should be routine.

Acknowledgements. The help of Miss Elizabeth Soetaert, Medical Records Librarian, is gratefully acknowledged as is the work of the many members of the blood bank staff in the finding and recording of the antibodies reported. Acknowledgement is also made to the reference laboratories of Ortho Laboratories and the Knickerbocker Foundation for confirming findings in many cases.

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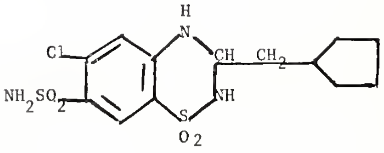
Correction: In the article "Electrocardiographic Changes After Intracranial Hemorrhage" by Michael Bernreiter, M.D., Kansas City, in the May issue figures 1 and 2 were reversed.

GERARD D. PIERRE, M.D., ***and***
JAMES G. JANNEY JR., M.D., ***St. Louis***

A Comparative Study of Su 8341 and Hydrochlorothiazide in Hypertensive Patients

The precise mechanism by which the thiazide compounds reduce blood pressure is still obscure. It has been advocated that their hypotensive effect is related to their diuretic and natriuretic properties;[1, 2, 3] however, a recent report[4] suggests that these two actions may be independent. After prolonged administration these compounds are reported to produce sufficient potassium excretion to be harmful to the patient.[5] In an effort to minimize this latter effect, numerous new thiazide compounds have been studied. One of these recently introduced is Su 8341* whose structural formula is shown in figure I.

Preliminary data suggest that Su 8341 is 63 times more potent than hydrochlorothiazide in terms of water excretion, 573 times in terms of Na excretion, 250 times in terms of chloride excretion. However this compound failed to produce a significant effect on potassium excretion. Because of these properties, a clinical study of this drug was undertaken in a group of hypertensive patients in order to evaluate its effect on serum electrolytes, assess its hypotensive effect and compare these effects with those produced by hydrochlorothiazide.



6-chloro-3-(cyclopentylmethyl)-3,
4-dihydro-7-sulfamyl-2H-1,2,
4-benzothiadiazine-1,1-dioxide

Fig. 1. Structural formula of Su 8341.

Material and Methods

Fifteen patients from the hypertension clinic of the University Hospital of Saint Louis University School of Medicine (Firmin Desloge Hospital) were selected for this study. Fourteen were female and one male. The average age was 56 and the range varied from 36 to 74 years. Prior to any therapy the patients received a careful evaluation which included a complete history, physical examination, urinalysis, blood urea nitrogen, fasting blood sugar, PSP excretion, chest roentgenogram, electrocardiogram and intravenous pyelogram. The pentolamine test was carried out in those patients whose diastolic blood pressure was 110 mm. Hg. or over. Before treatment the patients were seen weekly by the same physician for at least four weeks. At each visit their blood pressure was measured first in the sitting position and then in the recumbent position; after 10 minutes of rest in the supine position the pressure was recorded a third time and finally a standing blood pressure was obtained. The average values of the last two readings are used for the blood pressure levels reported for the control and treatment periods. The severity of the hypertensive disease was determined for each patient by the Goodyer classification.[4] None of the patients were in congestive failure and their diets were unrestricted in sodium; there was no supplementation of potassium by choice of food or by medication.

A comparative study of hydrochlorothiazide and Su 8341 was undertaken in a group of 15 hypertensive patients. The side effects of the two drugs, their action on blood pressure and serum electrolytes are presented and discussed.

Dr. Pierre is a Research Fellow of the Missouri Heart Association. Dr. Janney is Associate Professor of Clinical Medicine and Director of the Section of Cardiology at St. Louis University School of Medicine.

All patients were studied at the end of a prolonged period of treatment with hydrochlorothiazide and then after it was replaced with Su 8341. During the hydrochlorothiazide treatment

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* Supplied by Ciba Laboratories.

TABLE 1

COMPARISON BETWEEN BLOOD PRESSURE, SERUM ELECTROLYTES AND WEIGHT DURING HYDROCHLOROTHIAZIDE AND SU 8341 PERIODS

	Blood Pressure			*Medication*		*Electrolytes*		*Weight*	
Pts. Nos.	CONTROL	HYDRO PERIOD	SU 8341 PERIOD	HYDRO PERIOD	SU 8341 PERIOD	HYDRO PERIOD	SU 8341 PERIOD	HYDRO PERIOD	SU 8341 PERIOD
1. A.M.	L *210/110	189/99	172/99	HYDROCHLORO	SU 8341	NA = 148 meq	NA = 145 meq	129 lbs.	132 lbs.
Sex F				47 mg. T.I.D.	.25 mg. T.I.D.	K = 5.3	K = 6.5		
Age 75	S *200/106	187/100	159/93	HYDRALAZINE	HYDRALAZINE	Cl = 102.5	Cl = 103.6		
				100 mg. Q.I.D.	100 mg. Q.I.D.	CO_2 = 27.0	CO_2 = 27.0		
				GUANETHIDINE	GUANETHIDINE				
				115.62 mg. O.D.	137.5 mg. O.D.				
2. K.H.	L 171/112	175/104	177/100	HYDROCHLORO	SU 8341	NA = 147 meq	NA = 147 meq	173 lbs.	173 lbs.
Sex F				50 mg. T.I.D.	.25 mg. T.I.D.	K = 5.9	K = 4.8		
Age 60	S —	153/101	171/89	GUANETHIDINE	GUANETHIDINE	Cl = 104.6	Cl = 117.1		
				37.5 mg. O.D.	50 mg. O.D.	CO_2 = 27.0	CO_2 = 20.8		
3. N.C.	L 172/104	166/95	177/100	HYDROCHLORO	SU 8341	NA = 146 meq	NA = 142 meq	122 lbs.	123 lbs.
Sex F				50 mg. T.I.D.	.27 mg. T.I.D.	K = 4.9	K = 4.5		
Age 62	S 150/98	129/87	150/100	HYDRALAZINE	HYDRALAZINE	Cl = —	Cl = 102.7		
				75 mg. Q.I.D.	75 mg. Q.I.D.	CO_2 = 22.5	CO_2 = 20.7		
4. L.M.	L 210/150	165/98	173/108	HYDROCHLORO	SU 8341	NA = 147 meq	NA = 142 meq	129 lbs.	133 lbs.
Sex F				33 mg. T.I.D.	.25 mg. T.I.D.	K = 3.5	K = 4.6		
Age 52	S 210/150	107/85	146/107	GUANETHIDINE	GUANETHIDINE	Cl = 95.9	Cl = 94.3		
				12.5 mg. O.D.	25 mg. O.D.	CO_2 = 29.3	CO_2 = 29.5		
5. E.S.	L 190/140	162/94	180/106	HYDROCHLORO	SU 8341	NA = 147 meq	NA = —	145 lbs.	147 lbs.
Sex F				50 mg. T.I.D.	.25 mg. T.I.D.	K = 3.7	K = 4.7		
Age 55	S —	108/75	133/91	GUANETHIDINE	GUANETHIDINE	Cl = —	Cl = 112.3		
				29.68 mg. O.D.	25 mg. O.D.	CO_2 = 12.2	CO_2 = 26.1		
6. M.S.	L 168/102	162/98	165/101	HYDROCHLORO	SU 8341	NA = 147 meq	NA = 143 meq	146 lbs.	141 lbs.
Sex F				33 mg. T.I.D.	.25 mg. T.I.D.	K = 4.3	K = 5.5		
Age 60	S —	146/91	148/95	GUANETHIDINE	GUANETHIDINE	Cl = 102.4	Cl = 108		
				12.5 mg. O.D.	12.5 mg. O.D.	CO_2 = 25.2	CO_2 = 27.0		
7. H.G.	L 180/110	133/89	151/92	HYDROCHLORO	SU 8341	NA = 141 meq	NA = 146 meq	160 lbs.	150 lbs.
Sex F				50 mg. T.I.D.	.25 mg. T.I.D.	K = 3.8	K = 3.6		
Age 48	S —	110/76	135/87	GUANETHIDINE	GUANETHIDINE	Cl = 94.3	Cl = 114.1		
				57.81 mg. O.D.	50 mg. O.D.	CO_2 = 27.5	CO_2 = 29.3		

TABLE I—Continued

COMPARISON BETWEEN BLOOD PRESSURE, SERUM ELECTROLYTES AND WEIGHT DURING HYDROCHLOROTHIAZIDE AND SU 8341 PERIODS

	Blood Pressure			*Medication*		*Electrolytes*		*Weight*	
Pts. Nos.	CONTROL	HYDRO PERIOD	SU 8341 PERIOD	HYDRO PERIOD	SU 8341 PERIOD	HYDRO PERIOD	SU 8341 PERIOD	HYDRO PERIOD	SU 8341 PERIOD
8. A.H.	L 220/118	148/91	164/94	HYDROCHLORO	SU 8341	NA = 147 meq	NA = 143 meq	—	166 lbs.
Sex F				25 mg. T.I.D.	.26 mg. T.I.D.	K = 4.3	K = 4.2		
Age 60	S —	131/87	146/93	GUANETHIDINE	GUANETHIDINE	Cl = 100	Cl = 100.8		
				50 mg. O.D.	50 mg. O.D.	CO_2 = 22.6	CO_2 = 27.5		
9. N.J.	L 177/102	190/97	198/98	HYDROCHLORO	SU 8341	NA = 142 meq	NA = 140 meq	208 lbs.	204 lbs.
Sex F				50 mg. T.I.D.	.25 mg. T.I.D.	K = 4.6	K = 4.5		
Age 53	S 177/110	136/88	146/87	GUANETHIDINE	GUANETHIDINE	Cl = 104.1	Cl = 100.4		
				100 mg. O.D.	100 mg. O.D.	CO_2 = 26.1	CO_2 = 27.5		
10. L.M.	L 248/136	185/125	180/124	HYDROCHLORO	SU 8341	NA = 137 meq	NA = 140 meq	120 lbs.	117 lbs.
Sex F				50 mg. T.I.D.	.25 mg. T.I.D.	K = —	K = 5.2		
Age 35	S 250/138	175/130	183/130	HYDRALAZINE	HYDRALAZINE	Cl = 104.1	Cl = 102		
				100 mg. Q.I.D.	100 mg. Q.I.D.	CO_2 = 21.6	CO_2 = 14.9		
11. B.P.	L 206/124	148/93	159/95	HYDROCHLORO	SU 8341	NA = 143 meq	NA = 139 meq	134 lbs.	139 lbs.
Sex F				25 mg. T.I.D.	.29 mg. T.I.D.	K = 4.3	K = 3.9		
Age 66	S —	130/85	130/85	GUANETHIDINE	GUANETHIDINE	Cl = 103	Cl = 102.3		
				12.5 mg. O.D.	12.5 mg. O.D.	CO_2 = 30.2	CO_2 = 24.3		
12. F.R.	L 230/130	151/100	155/98	HYDROCHLORO	SU 8341	NA = 143 meq	NA = 144 meq	182 lbs.	183 lbs.
Sex F				50 mg. T.I.D.	.25 mg. T.I.D.	K = 4.8	K = 5.0		
Age 63	S —	115/82	129/87	GUANETHIDINE	GUANETHIDINE	Cl = 105.8	Cl = 106		
				50 mg. O.D.	50 mg. O.D.	CO_2 = 23.4	CO_2 = 22.5		
13. M.W.	L 203/128	121/81	124/84	HYDROCHLORO	SU 8341	NA = 142 meq	NA = 144 meq	—	—
Sex F				50 mg. T.I.D.	.25 mg. T.I.D.	K = 5.0	K = 4.8		
Age 54	S 190/128	117/80	116/70	GUANETHIDINE	GUANETHIDINE	Cl = 103.3	Cl = 104		
				50 mg. O.D.	44.44 mg. O.D.	CO_2 = 29.7	CO_2 = 27.0		
14. L.B.	L 190/104	164/91	148/86	HYDROCHLORO	SU 8341	NA = 148 meq	NA = 144 meq	127 lbs.	125 lbs.
Sex F				12 mg. T.I.D.	.25 mg. T.I.D.	K = 3.8	K = 4.2		
Age 53	S 176/101	147/86	132/85			Cl = 100.8	Cl = 115.6		
						CO_2 = 27.0	CO_2 = 25.4		
15. J.E.	L 176/119	139/100	150/113	HYDROCHLORO	SU 8341	NA = —	NA = 140 meq	—	—
Sex M				50 mg. T.I.D.	.25 mg. T.I.D.	K = —	K = 5.8		
Age 53	S 165/117	125/100	145/106			Cl = —	Cl = 104.7		
						CO_2 = —	CO_2 = 28.4		

* L means average lying and S average standing blood pressures.
— Horizontal lines indicate that the data were not available.

period, 11 patients received guanethidine and three hydralazine. The patients were seen at weekly or bimonthly intervals and at each visit their blood pressures were obtained in the same manner as described for the control period. The blood pressures listed in table 1 are the averages of the pressures obtained during the last eight weeks of the described therapy. During each clinic visit, the body weight and the frequency and severity of side effects were determined for each patient. The severity of each side effect was graded as follows: 1+ severity indicates mild symptoms with no interference with the patient's usual activities; 2+ severity indicates moderate symptoms with some interference with the patient's usual activities but not sufficiently severe to require discontinuation of the drug; and 3+ severity indicates marked symptoms and sufficient interference with the patient's usual activities to require discontinuation of the drug. The frequency of the side effects was calculated by totaling the number of times each side effect occurred in the whole group of patients during each period studied. Table 2 shows the side effects for each patient during the last eight weeks on hydrochlorothiazide.

TABLE 2

COMPARISON OF SIDE EFFECTS

	During Hydrochlorothiazide			*During Su 8341*		
Name	SEVERITY	FREQUENCY	PATIENTS	SEVERITY	FREQUENCY	PATIENTS
Dizziness	1+	9	4	1+	25	6
	2+	0	0	2+	3	3
Dyspnea	1+	12	7	1+	22	5
	2+	1	1	2+		
Orthopnea	1+	7	3	1+	9	3
Headache	1+	33	3	1+	12	4
	2+	3	2	2+	12	4
Palpitation	1+	22	6	1+	27	3
Weakness	1+	10	3	1+	25	6
	2+	0	0	2+	1	1
Blurred Vision	1+	6	3	1+	36	5
	2+	0	0	2+	1	1
Dryness of Mouth	1+	9	3	1+	18	5
	2+	1	1	2+	0	0
Drowsiness	1+	6	4	1+	52	6
Increased Appetite	1+	2	2	1+	1	1
Anxiety-Depression	1+	6	3	1+	4	4
Nasal Congestion	1+	9	2	1+	10	3
	2+	7	1	2+	2	1
Constipation	1+	0	0	1+	14	4
Diarrhea	1+	16	3	1+	30	3
Nausea-Vomiting	1+	5	2	1+	16	1
Postural Hypotension	2+	0	0	2+	2	1

At the end of the hydrochlorothiazide period serum Na, K, Cl and CO_2 were determined for each patient. At a dose of 0.25 mg. t.i.d. Su 8341 was then abruptly substituted for hydrochlorothiazide for an average of eight and one-half weeks with a range of five to 11 weeks. In addition to Su 8341 11 patients received guanethidine and three hydralazine. The same frequency of visits was maintained and side effects and weight were determined in the same manner as during the hydrochlorothiazide period. Serum Na, K, Cl and CO_2 were determined four weeks after the initiation of Su 8341 and at the end of the study for each patient. The serum electrolytes recorded in table 1 represent the average of these two determinations.

RESULTS

The control and treatment blood pressures, medications, serum electrolytes, weight and side effects during treatment with hydrochlorothiazide and with Su 8341 are summarized in tables 1 and 2.

In comparing the blood pressures of individual patients for both periods, there was a further decrease in blood pressure during the Su 8341 period in two patients (Pts. Nos. 1 and 2) compared to that during hydrochlorothiazide (table 1). This was probably due to an increase in the average dose of guanethidine from 76.56 mg. o.d. during the hydrochlorothiazide period to 93.75 mg. o.d. during the Su 8341 period in these two patients.

Elevation of blood pressure was noted during the Su 8341 period in four patients (Pts. Nos. 3, 4, 5, 6); the average levels increased from 164/96 supine and 123/87 standing during the hydrochlorothiazide period to 174/104 supine and 144/98 standing during the Su 8341 period. The average dose of ancillary medications remained nearly the same during both periods for this group.

Seven patients (Pts. Nos. 7, 8, 9, 10, 11, 12, 13) showed no significant change in their blood pressure when Su 8341 was substituted for hydrochlorothiazide; the dosage of their ancillary medications remained comparable. Patient No. 10 showed no blood pressure improvement during either period compared to the control period.

The remaining two patients (Pts. Nos. 14, 15) were treated with hydrochlorothiazide alone at an average dose of 31 mg. three times a day which was replaced by Su 8341 at an average dose of .25 mg. t.i.d. One of these patients (Pt. 14) showed good blood pressure response during both periods. The other (Pt. 15) demonstrated an elevation of blood pressure from 139/100 supine and 125/100 standing during the hydrochlorothiazide period to 150/112 supine and 145/106 standing during the Su 8341 period.

When the blood pressures are compared during the two treatment periods for the whole group of 15 patients, no significant change is noted (table 3). During the hydrochlorothiazide period, the average dose of hydrochlorothiazide was 42 mg. t.i.d. In addition, 11 patients received guanethidine at an average dose of 48.00 mg. o.d. During the Su 8341 period, all the 15 patients received 0.25 mg. of Su 8341 t.i.d. and eleven patients received guanethidine at an average dose of 50.62 mg. o.d. Three patients received hydralazine at a dose of 92 mg. q.i.d. during both treatment periods.

The side effects noted during both periods of the study are tabulated in table 2. Headache, blurred vision, drowsiness, constipation, diarrhea, nausea and vomiting occurred more frequently during Su 8341 therapy than during hydrochlorothiazide administration. Nasal congestion was less frequent during the Su 8341 period than during the hydrochlorothiazide period. Postural hypotension occurred in one patient during the Su 8341 period.

The serum electrolytes remained within normal limits during both hydrochlorothiazide and Su 8341 administration except in three patients; one of them (Pt. 1) had an elevation of serum potassium from 5.3 milliequivalents during hydrochlorothiazide period to 6.5 milliequivalents during Su 8341 period. The second patient (Pt. 5) had a CO_2 determination of 12.3 milliequivalents during hydrochlorothiazide period which became normal during Su 8341 period. The remaining patient (Pt. 10) showed a drop in serum CO_2 from 21.6 mEq. during the hydrochlorothiazide period to 14.9 during Su 8341 period. Three additional patients not included in the present study because of significant variations in their ancillary medications showed no change in the serum electrolytes during either hydrochlorothiazide or Su 8341 administration. There was no change in the average body weight of the group during the study.

(Continued on page 527)

TABLE 3

COMPARISON OF AVERAGE BLOOD PRESSURE, WEIGHT, MEDICATION, SERUM ELECTROLYTES DURING HYDROCHLOROTHIAZIDE AND SU 8341 PERIODS FOR THE WHOLE GROUP

Pts 15	*Hydrochlorothiazide Period*				*Su 8341 Period*		
BLOOD PRESSURE	MEDICATION	ELECTROLYTES	WEIGHT	BLOOD PRESSURE	MEDICATION	ELECTROLYTES	WEIGHT
L 160	HYDROCHLORO	NA : 144.3	153 lbs.	L 165	SU 8341	NA : 142 meq	152 lbs.
97	42 mg. T.I.D.	K : 4.3		99	.25 mg. T.I.D.	K : 4.7	
	GUANETHIDINE	Cl : 107.6			GUANETHIDINE	Cl : 111.6	
S 134	48.0 mg. O.D.	CO_2 : 28.2		S 145	50.62 mg. O.D.	CO_2 : 25.0	
89	HYDRALAZINE†			94	HYDRALAZINE†		
	92 mg. Q.I.D.				92 mg. Q.I.D.		

* 11 Patients received guanethidine during both periods.
† Three patients received hydralazine during both periods.

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The Immediate Postanesthetic Period

THE IMMEDIATE postanesthetic period is a critical time in the course of surgical management. Patients, though responding or even conversing, are in a physiological "twilight zone." They are neither awake nor anesthetized. There are lingering effects following both general and regional anesthesia that are frequently not appreciated.

The postanesthetic period is described as a critical period because of pharmacologically induced physiologic derangements. Ventilatory and circulatory physiology, with specific management, are discussed.

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The concern and awareness of these problems is accentuated for the anesthetist because he has produced this abnormal state pharmacologically.

Of primary concern is the inability of a postanesthetic patient to "protect" or "defend" himself from his environment. He becomes dependent in varying degrees. For example, with a loss of protective reflexes, one might aspirate material into the tracheobronchial tree or fail to blink an eyelid in avoiding trauma to the cornea or not complain of an overheated hot water bottle that is burning the skin. The inability to protect oneself becomes a life-or-death matter when the respiratory and circulatory systems are involved. The crucial derangements of these two systems are manifest mainly by hypoventilation and hypotension.

Compounding the problems of the postanesthetic period is the mental "let down" of physicians at the completion of a surgical procedure. "The chores are done, now we can relax" may become an attitude that is fatal—for the patient.

The problems of the postanesthetic period are basically physiologic. Rather than present case histories, this article proposes a physiologic approach to patient management while in this "twilight zone."

VENTILATION

When the term ventilation is used, interest is really in alveolar ventilation. Alveolar ventilation is the movement per minute of inspired gases into the alveoli, where gaseous exchange with the blood takes place. Alveolar ventilation depends not only on the rate and depth (tidal volume) of respiration but includes respiratory dead space.[1] The respiratory or physiologic dead space is the volume of inhaled air or gas that does not participate in gaseous exchange with the blood. This includes the air remaining in the nose, mouth, throat and larger portions of the tracheobronchial tree after inspiration, plus some air which comes in contact with alveoli which are proportionately improperly perfused with blood.

During and shortly after anesthesia, decreased alveolar ventilation or hypoventilation is common. The causes of hypoventilation are varied, but in the immediate postanesthetic period, the following physiologic alterations must be considered.

A. *Depression of the central nervous system.*—All premedicants producing euphoria, pain relief, hypnosis and sedation do so at the cost of depressing respiration. They decrease the sensitivity of the respiratory center to carbon dioxide, which is the main driving force for breathing. Drugs capable of depressing respiration include all narcotics, all barbiturates and most tranquilizers when combined with either of the former drugs.

All general anesthetics depress respiration (with the possible exception of light anesthetic levels of diethyl ether or nitrous oxide). Hypoventilation may persist even when the patient appears to be awake and responsive. This is particularly true if excessive amounts of narcotics are given in the immediate postanesthetic period. Surprisingly small amounts of narcotics will provide analgesia at this time (Demerol 25 mg., morphine sulfate 3 mg.), and are best administered slowly intravenously.

Hypoxia acts as a depressant to the brain. Tragically, hypoxia perpetuates itself; a depressed brain also means depression of respiration and failure of airway maintenance, which produces further hypoxia. Unless corrected, death may ensue. Decreased cerebral blood flow produces hypoxia in the brain, with the same complicating perpetuation. The most common causes for decreased cerebral blood flow are low blood pressure and increased intracranial pressure.

As a rule of thumb, any drug, disease or trauma that is capable of producing unconsciousness can produce hypoventilation.

B. *Obstruction of the airway.*—Most patients have heard of someone "swallowing their tongue" during or immediately after general anesthesia. The tongue tends to fall backward into the pharynx whenever the muscles of the jaw and throat are relaxed (fig. 1). This occurs during natural sleep when one "snores." Fortunately when the airway becomes completely obstructed, the brain sends out an alarm to "wake up and breathe." With "lightening" of the depth of sleep there is sputtering, groaning, swallowing and smacking of lips. After clearing the airway, deeper sleep is resumed and the cycle repeated. When "sleep" or unconsciousness is produced by premedicant drugs or anesthetics (for that matter, any cause), one is unable to "lighten" the depth and regain muscular tone. The airway remains obstructed because the patient is now dependent and unable to protect himself. The inability to breathe leads to hypoxia which further depresses an already depressed brain.

In the postanesthetic or postsurgical period one may have added causes of airway obstruction, particularly due to mechanical compression or distortion of the airway. Examples of this would include: tight dressings about the face and neck, a hematoma compressing the trachea, laryngeal edema and anatomic changes (such as a resection of the jaw). Thyroid surgery is probably the most common neck procedure capable of airway obstruction.

C. *Impairment of muscles of respiration.*—All inhalation anesthetics which produce muscular relaxation (for example diethyl ether, cyclopropane) will interfere with the muscles of respiration. The incidence of this particular problem has progressively increased in recent years with the popularity of muscle relaxant drugs as an aid to surgical exposure. The relaxant drugs most commonly used are d-tubocurare or succinyl choline (Anectine) and their effects may be more profound or more prolonged than anticipated. If impairment of the muscles of respiration goes unrecognized, hypoventilation leads to hypoxia which leads to cerebral depression and further hypoxia. Surgical patients may present other coexistent conditions which impair the muscles of respiration: poliomyelitis, crushed chest injuries, myasthenia gravis, extreme kyphosis, pectus excavatum, tight abdominal and chest bandages, extreme obesity and others. Impairment of respiratory muscles may also be due to high spinal anesthesia as well as peridural or intercostal nerve blocks.

D. *Interruption of pleural integrity.*—Any form of pneumothorax leads to hypoventilation. The pneumothorax may be traumatic, spontaneous or surgical (thoracotomy). When an open pneumothorax is present, ventilation must be augmented by intermittent positive pressure breathing, preferably through an endotracheal tube. If a closed or tension pneumothorax is present (essentially a broncho-pleural fistula), the pleura must be opened by incision or trocar (creating a broncho-pleural-cutaneous fistula) before assisting ventilation.

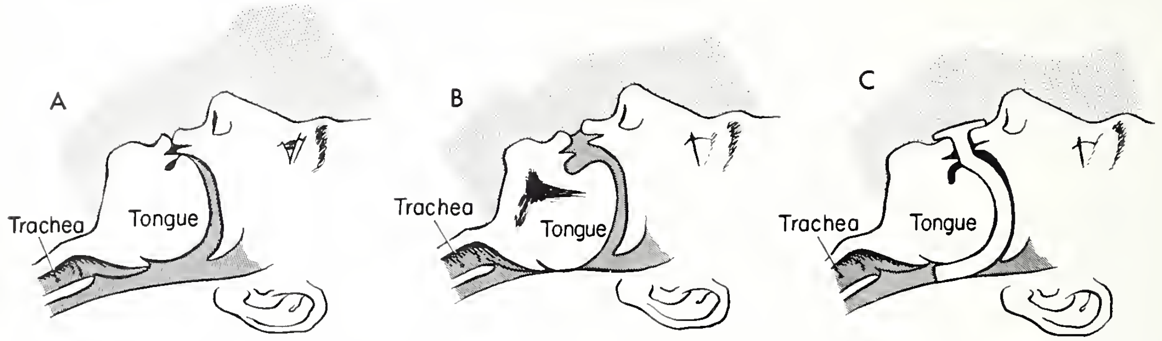

Fig. 1. Airway Maintenance. A. Subject awake. The airway is kept patent by muscular tone in the tongue and jaw. B. Subject unconscious—due to natural sleep, drugs, disease or trauma. Muscles are relaxed and the tongue falls against the pharynx, obstructing the airway. C. Subject unconscious. The tongue is held forward by the insertion of an oropharyngeal airway. Thrusting the jaw forward by pressure at the angle of the mandible has the same effect.

E. *Distortion of thoracic contents.*—Any anatomic encroachment of the lungs or lung space leads to hypoventilation. Examples include: a large hiatus hernia, increased pressure of abdominal contents upward against the diaphragm (following a large ventral hernia repair, tight abdominal bandages, obesity, prone position, lithotomy position, gastric and bowel distention), a hemothorax and tension pneumothorax.

F. *Alteration of the lungs.*—Postanesthetic hypoventilation may be accentuated by preexisting lung disease (emphysema, pulmonary fibrosis, asthma) or postanesthetic changes in the lung, particularly atelectasis and pulmonary edema. Atelectasis is due primarily to hypoventilation from any of the previous causes or failure of the patient to cough and turn (due to brain depression or pain from surgical incisions). Whatever the cause, atelectasis leads to decreased alveolar ventilation and hypoxia.

CIRCULATION

The circulatory system is equally important in the "twilight zone" following anesthesia. The delicate physiologic adjustments necessary for proper and adequate distribution of blood to body organs are often thrown out of balance at this time.

Five factors contribute to the maintenance of systemic arterial blood pressure: (1) cardiac output, (2) blood volume, (3) peripheral vascular resistance, (4) blood viscosity and (5) elasticity of vessels.[2] Of these, the first three are of particular concern because blood viscosity and the elasticity of vessels in an individual patient are relatively unaltered during the course of surgery and in the immediate postoperative period. A decrease in systemic arterial pressure, or hypotension is the most common circulatory disturbance in the postanesthetic period. Hypotension may be due to decreases in cardiac output, blood volume, peripheral resistance or any combination of these.

A. *Cardiac output.*—Although many factors influence cardiac output, during a period of anesthesia the factors capable of reducing cardiac output are limited to three: (a) decreased myocardial contractility, (b) decreased venous return to the heart and (c) extremes of heart rate.[3] In the postoperative period, these three factors retain their importance.

Mocardial contractility is the ability of the heart muscle to contract or "squeeze" and eject blood. Heart contractility may be impaired by preexisting heart disease, acute myocardial infarction, drugs, fatigue and ischemia. As a general rule, drugs capable of depressing the central nervous system have detrimental cardiovascular effects. Myocardial depressing drugs used in anesthesia include: thiopental (Pentothal), halothane (Fluothane), cyclopropane, procaine (Novocaine), lidocaine (Xylocaine), methoxyflurane (Penthrane), diethyl ether, tetracaine (Pontocaine), chloroform and dibucaine (Nupercain). Either a relative or an absolute overdose of any one of these drugs causes a decrease in the contractility of the heart. Some of the anesthetic agents may additionally impair myocardial conductivity and/or increase myocardial irritability.

Hypoxia, hypercarbia, electrolyte imbalance, metabolites and changes in pH may markedly influence myocardial contractility.

Myocardial failure is an often unrecognized but not uncommon cause of decreased myocardial contractility. Failure in itself may be due to many causes, cardiac disease being foremost.

The venous return to the heart may be diminished by blood loss, mechanical obstruction (abdominal compression, tumors, pericardial tamponade), increased intrathoracic pressure, dilatation of vascular beds with "pooling of blood" (e.g., splanchnic vessels), decreased venous tone, patient position and lowered arterial pressure. The heart is capable of pumping only as much blood as it receives.

Extremes of heart rate decrease cardiac output. For practical purposes these are rates below 40 beats per minute or above 180 beats per minute (in adults). Severe bradycardia is usually due to organic disturbances of the conduction system in the heart, such as complete A-V block (Adams-Stokes syndrome) or A-V dissociation. With the advent of cardiac surgery, sutures in or near the bundle of His may produce A-V block. Slowing of the heart may also be due to vagal reflexes or hyperactivity. Hypoxia produces a sudden bradycardia, particularly in children.

Tachycardia following surgery and anesthesia is usually due to pain and/or blood loss. Dangerous tachycardia is usually associated with some form of heart disease such as paroxysmal atrial tachycardia, atrial flutter with episodes of 1:1 block (instead of the usual 2:1 or 3:1 block) and ventricular tachycardia. Extremely fast rates lead to inefficient pumping action of the heart because the period of diastole becomes so shortened that the ventricles do not adequately fill with blood before the next systole. Cardiac output is then decreased and the blood pressure falls.

B. *Blood volume.*—During and after surgery, blood loss must constantly be monitored. Certain surgical procedures of necessity are associated with excessive blood loss which one must anticipate. Some common operations and their associated average blood loss are listed in table 1. Unfortunately, accurate measurement of blood loss is difficult, time consuming and impractical. One therefore must make an intelligent estimate or "guesstimate" of blood loss from the number of surgical sponges used, their degree of saturation with blood, the amount of blood in the wound, on the drapes and on the surgeons' gowns, plus blood in the suction apparatus. Experience leads to fairly realistic appraisals in most instances. Unfortunately there is occasional disagreement over the estimated amount of blood lost; usually with an underestimate by the surgeon and an overestimate by the anesthetist. However, the anesthetist has the advantage of making frequent appraisals of the patient's condition and monitoring the blood loss in relation to time and duration of the bleeding. The surgeon, on the other hand, is frequently too technically occupied to properly evaluate blood loss. Certainly the maintenance of circulatory homeostasis should be a "team effort." One cannot let pride or stubbornness interfere with proper patient care.

TABLE 1

AVERAGE BLOOD LOSS DURING SURGERY*

Operation	*ML.*
Thyroidectomy	**320**
Simple Mastectomy	**151**
Radical Mactectomy	**647**
Cholecystectomy	**228**
Subtotal Gastric Resection	**576**
Splenectomy	**376**
Appendectomy	**76**
Abdominal Hysterectomy	**444**
Inguinal Herniorrhaphy	**35**
Nephrectomy	**708**
Perineal Prostatectomy	**650**
Transurethral Prostatic Resection	**365**
Open Reduction Upper Extremity	**466**
Bone Grafts Upper Extremity	**799**
Open Reduction Lower Extremity	**496**
Bone Graft Lower Extremity	**1076**
Hip Nailing or Arthroplasty	**521**

* From Keown, K. K. and Hitchcock, P.: unpublished data.

C. *Peripheral resistance.*—Peripheral vascular resistance is maintained by the arterioles which are under nervous and humoral control. Nervous control of the vessels is mediated by a delicate autonomic balance, but the functional innervation is predominately by sympathetic fibers.[4] Humoral control is mediated primarily by metabolites (lactic acid, carbon dioxide), endogenous catechol amines (epinephrine, norepinephrine) and histamine.

Upsets in autonomic balance causing changes in peripheral resistance as manifest by hypotension or hypertension, are usually assigned the term "reflexes." Two states which tend to enhance such reflexes are fear and pain. Pain that is visceral or periosteal in origin tends to cause a loss of peripheral resistance and hypotension in contrast with somatic pain which produces hypertension. Hypoxia, hypercarbia and acidosis tend to exaggerate autonomic reflexes which then may become detrimental to the patient.

Conduction anesthesia (spinal, peridural block, nerve block) diminishes or eliminates reflexes by blocking afferent impulses or stimuli. Reflexes tend to be diminished proportional to the depth of general anesthesia; the deeper the level of anesthesia, the less reflex activity. Sudden movements or changes in position cause alterations in blood pressure which are usually compensated by reflex activity. When these protective reflexes are obtunded by conduction or general anesthesia, marked decreases in blood pressure ensue.[5] Drugs other than anesthetics which can produce autonomic imbalance are narcotics and antihypertensive agents.

In addition to autonomic alterations, the arterioles may react abnormally because of changes in the responsiveness of the smooth muscles in the vessel walls. Some antihypertensive agents and tranquilizers, particularly phenothiazines, may alter peripheral resistance in this manner.[6] Similar effects are seen with electrolyte imbalance (low-salt syndrome) and corticosteroid depletion. Histamine and histamine-like reactions ("septic shock") produce hypotension by altering arteriolar smooth muscle responsiveness. In these states of altered responsiveness, the arterioles are not readily reactive to the usual vasoconstrictor drugs.[6] This fact may aid in the diagnosis and proper correction of a decreased peripheral resistance due to alteration of the vascular smooth muscles.

D. *Untoward cardiovascular events.*—During the postanesthetic period, there are some untoward cardiovascular events, usually manifesting hypotension, that can confuse and complicate the etiologic diagnosis and treatment of low blood pressure. Characteristically, these events are intimately involved with respiratory activity, further obscuring their management.

Acute myocardial infarction occurring in the postanesthetic period is manifest by hypotension, tachycardia, perhaps pain (dependent upon the consciousness of the patient) and frequently the signs and symptoms of acute congestive heart failure. Dyspnea with hypoventilation leading to hypoxia of an already damaged heart can confuse the diagnosis. Characteristically the patient exhibits sudden circulatory failure (hypotension, narrowing of the pulse pressure) that is refractive to the usual therapy (oxygen, change of position, adequate blood replacement). The appearance of pulmonary edema simplifies and adds credence to the diagnosis. In the absence of congestive heart failure, one must first suspect the diagnosis of myocardial infarction. The age of the patient, a previous history of infarction, or a history of heart disease may strengthen the suspicion. An electrocardiogram may prove diagnostic, particularly compared with previous tracings; however a non-diagnostic electrocardiogram does not rule out a myocardial infarction.

Pulmonary embolus is frequently a difficult diagnosis to make in the postanesthetic period. Characteristically thrombotic emboli occur from the 3rd to the 21st postoperative days and usually are associated with ambulation.[7] Fat emboli may be associated with patients having fractures of the long bones and surgical manipulation. Air embolus is usually associated with head and neck surgery (air being "sucked" into the large veins close to the heart), cardiac surgery, pneumoencephalography or the dangerous (and not recommended) use of air pressure to increase the rate of intravenous blood infusion (using a manometer bulb in the air inlet of a blood bottle). Sudden onset of pulmonary emboli is typical, with the patient exhibiting "air hunger" (restlessness, gasping, dyspnea, cyanosis) in spite of an open airway and normal tidal volume. Whether the embolus is a clot, fat or air, the picture is identical. The etiology is identified from knowledge of the patient, the surgery and all possible causes. Frequently death rapidly ensues. In all forms, the basic problem is that of cor pulmonale with right heart failure. Bronchial and vascular spasm may aid in diagnosis by presenting a decrease in lung vascularity on chest x-ray and a decrease in breath sounds on auscultation. Electrocardiography reveals right heart "strain."

Arterial emboli may occur postanesthetically. The most difficult problem is that of cerebral emboli in which a patient may not regain consciousness. Occasionally a patient may present a picture of a "stroke" with hemiplegia and clinically it may be indistinguishable from a cerebral hemorrhage. Usually arterial emboli are associated with cardiac disease (rheumatic valvulitis, atrial fibrillation, mural thrombi following infarctions) but now are seen following cardiotomy with or without cardiopulmonary bypass (heart-lung machine). Any condition able to produce cerebral emboli may lead to coronary artery embolization or embolic occlusion of vessels to the extremities and bodily organs.

Major adverse reactions to blood transfusions occur with tragic frequency.[8] One out of every 1,000 to 3,000 blood administrations are fatal.[9] Rather than minor reactions (chills, hives), the reactions of primary concern are hemolytic and bacterial. Either may produce severe cardiovascular effects, including hypotension. Hemolytic reactions result in high serum potassium levels which may directly decrease myocardial contractility. Infusion of bacteria laden blood may produce "septic" shock with a profound reduction in peripheral vascular resistance. The diagnosis of such reactions is not easy during or immediately following anesthesia. Suspicion and/or onset of circulatory derangement shortly after the start of a blood transfusion suggest the diagnosis. Discoloration of the blood or plasma in the bottle may indicate bacterial contamination. Evidence of gross hemolysis may be obtained from a centrifuged blood sample and the observation of hemoglobin in the patient's serum. If hemolysis is present, a regimen should be instituted in anticipation of acute renal shut-down.

Mediastinal emphysema may occur following trauma (such as a ruptured esophagus), spontaneous pneumothorax or surgery in the neck, particularly in children. The air trapped in the mediastinum mechanically interferes with blood entering the heart, resulting in a decreased cardiac output and hypotension. Intermittent positive pressure breathing may worsen the condition. Drainage of the mediastinum must be done, and is frequently performed concomitantly with a tracheostomy.

MISCELLANEOUS

Other problems presenting themselves in the postanesthetic period may not be related to the ventilatory or circulatory systems. One such problem is the failure of the patient to regain consciousness. This may be due to trauma or disease existing prior to anesthesia (usually in neurosurgical patients). Cerebral edema may be the causative factor and is generally due to cerebral ischemia, cerebral hypoxia, venous congestion of the brain from faulty positioning or overloading the patient with fluids (e.g. intra-vascular infusion of irrigating solution during transurethral resection of the prostate gland). Anesthetists feel particularly responsible for any lingering effects of anesthetic drugs causing unconsciousness. Drugs requiring metabolic detoxification or excretion are the prime offenders as the inhalation agents are rapidly removed via the lungs. A cerebrovascular accident may produce a delayed return to consciousness and may be due to either a thrombosis or hemorrhage, perhaps due to an episode of hypotension or hypertension during surgery.

In the miscellaneous category belong the physical injuries due to the dependent status of the postanesthetic patient. One should always protect the eyes and limbs from injury until protective reflexes are regained. Undue and prolonged pressure on nerves may lead to paresthesias and even permanent nerve paralysis. Overheated hot water bottles or electric pads may lead to burns particularly in infants because of their sensitive skin.

Occasionally during the "twilight zone" following anesthesia, a patient might appear restless, combative or delirious. Most of these patients will improve with changes of position or oxygen administration. One should be careful of narcotic administration unless pain is the primary causative factor. Rarely a condition known as postanesthetic excitement or "emergence delerium" is present and is best treated by the careful intravenous administration of apomorphine in small subemetic doses (1.0 to 1.5 mg.).

MANAGEMENT AND THERAPY

To properly manage and treat these deleterious responses in the postanesthetic period, one first considers prevention of their occurrence. By being aware of the mental "let-down" at the end of a procedure, all physicians can guard against carelessness and disregard of the patient's precarious and dependent status. By being so forewarned, proper patient care can begin before leaving the operating room and persist throughout the "twilight zone."

By reducing physiologic derangements during the course of surgery and anesthesia, the incidence of postanesthetic problems is reduced. The goal in anesthetic management is the production of a state suitable for a surgical procedure with the least physiologic alteration. To oversimplify, this means: the "lightest" depth of anesthesia commensurate with surgical exposure and manipulation, the maintenance of a patent airway, adequate augmentation of ventilation and proper blood replacement.

The dependency of the surgical patient is even greater during the course of anesthesia than afterward and the patient should be protected from improper or extreme positions and pressure on eyes or nerves while in the operating room.

Other than preventive measures, one must still deal with hypoventilation and hypotension appearing in the postanesthetic period. A good, practical rule is to treat the patients supportively until a specific diagnosis or cause of the disturbance is determined.

A. *Treatment of hypoventilation.*—Three basic rules for supporting ventilation are: maintenance of a patent airway, assistance of ventilation if the patient's efforts are inadequate (control ventilation if respiratory effort is absent) and the administration of oxygen.

Patent Airway.—The most common cause of an obstructed airway is the tongue. Several means are available for correcting such obstruction: lifting at the angle of the jaw so that the jaw is thrust forward; proper insertion of an oropharyngeal or nasopharyngeal airway, whose prime purpose is not to provide a channel through which to breathe, but to hold the tongue forward away from the pharynx (fig. 1). Unobstructed breathing is quiet and the flow of air into and out of the mouth and nose is readily felt with the hand. Simultaneously the chest should be observed for expansion on inhalation without retraction. A partially obstructed airway is noisy ("snoring") but the movement of air may at first appear adequate. There is evidence of labored respiration with intercostal retraction or the respiratory movements are more forceful than the stream of air indicates. A completely obstructed airway is quiet with marked retraction and no movement of air. Respiratory movements may be exaggerated with a thrusting or jerking diaphragmatic motion. When combined with retraction of the chest, there appears to be a "rocking motion" of the chest and abdomen. Cyanosis may not be evident and should not be the prime indicator for airway improvement. If cyanosis is present it should be considered a late sign of hypoxia.

If airway maintenance is difficult, one should not hesitate to perform a tracheostomy. When one is skilled at the insertion of an endotracheal catheter or tube, this may suffice and indeed may be lifesaving until a tracheostomy is performed.

Ventilatory Assistance.—The most practical means of assisting ventilation is by means of a bag and mask. With such an apparatus one may assist inadequate ventilation or even passively ventilate an apneic patient. To properly use a bag and mask takes considerable skill and practice. The airway must be patent to allow the artificially ventilated air (or oxygen) to reach the lungs. If improperly done, the gases may be forced into the stomach (particularly in children), leading to gastric dilatation which further impairs ventilation and may even produce cardiovascular collapse. The equipment necessary is simple and inexpensive and 100 per cent oxygen may readily be administered. The two most difficult problems are: maintenance of the airway and prevention of leaks between the mask and the patient's face.

In emergencies the use of mouth-to-mouth or mouth-to-nose ventilation is highly recommended. The difficulties with this technic are improper maintenance of the airway and distention of the stomach. For those interested, there are several manuals available describing mouth-to-mouth and rescue breathing.[10]

Oxygen.—The therapeutic use and need of oxygen is well established. Hypoxia leads to cellular depression and death when the available oxygen stores in the body have been consumed. Unfortunately the brain is unable to store oxygen, so that cerebral cellular death may ensue in as little as four minutes unless oxygen is carried to it in the arterial blood. An oxygen enriched atmosphere can be helpful in a patient suffering with hypoventilation. True, this will not help remove carbon dioxide from the lungs but it may retain viability to oxygen-starved tissues.

Oxygen may be administered by a bag and mask (as previously discussed), nasopharyngeal catheter or tent. The nasopharyngeal catheter is cheap, simple and will provide an atmosphere of 35 to 45 per cent oxygen in the trachea. The distal tip of the catheter must be in the nasopharynx; not the nose and not the throat. Oxygen is passed through a water bottle (to decrease dryness), through the catheter into the nasopharynx where it is inhaled with air passing through the mouth and nose. A flow of five liters per minute is adequate. It is best that only green tubing be used for nasopharyngeal oxygen so it will not be confused with gastric or gastrointestinal suction tubing or feeding tubes. If oxygen is passed through a tube into the stomach at 5 l./min., rupture is inevitable. This danger exists if a nasopharyngeal catheter is inserted too far. For this reason, after proper placement, the nasopharyngeal catheter should be affixed to the face with tape to prevent migration.

Oxygen tents are clumsy, require much larger quantities of oxygen, may produce claustrophobia, make the patient inaccessible for nursing and medical care and inevitably leak. It is a rare and unusual tent that can provide an atmosphere above 25 per cent oxygen, measured in the trachea. The tents have one advantage; they can provide cool and moisturized air.

The bag and mask is the only simple way to administer 100 per cent oxygen, be able to supplement or provide artificial ventilation and to alter inspiratory or expiratory pressures.

There are many machines (ventilators, respirators) on the market that can perform these same functions, but their proper operation requires an expert and usually an airtight artificial airway (endotracheal tube or tracheotomy tube, both with balloons or cuffs to prevent air leakage).

For practical everyday postanesthetic care, the nasopharyngeal catheter remains the first choice with a bag and mask immediately available for resuscitation of patients with severe hypoventilation problems.

After these supportive measures have been instituted, one can consider the physiologic derangements responsible for the patient's condition. One must mentally review the causes of hypoventilation previously discussed and if specific therapy or action is indicated, follow through.

B. *Treatment of Hypotension.*—Hypotension must be dealt with similarly to hypoventilation: supportive care first and then definitive care.

Functional intravenous infusion.—The first requisite for combatting hypotension is a means of inserting blood volume expanders and/or drugs into the circulatory system. During periods of hypotension veins are collapsed and difficult to cannulate, therefore, a large bore needle or catheter (no smaller than 18 gauge) should be inserted into a vein before surgery. Patients in "shock" or in whom blood loss is anticipated to be great, should have a "cut-down" performed. The infusion is then useful both during and following the operative procedure. One merely need keep the "entrance" to the circulatory system patent with 5 per cent dextrose in water solution until needed. Whole blood, plasma or plasma expanders are useless until added to the circulating blood volume. Vasopressors, cardiotonic and other drugs are worthless if given by any route other than intravenously during a period of hypotension. If deposited in the muscle or subcutaneous tissue, they will lay dormant until the circulation is improved. The circle becomes vicious when circulatory improvement may depend upon the action of the drug so ineffectually injected. It is impossible to overemphasize the importance of a suitable, patent, functional intravenous cannula during anesthesia and in the immediate postoperative period.

Oxygen.—The usefulness of oxygen in the supportive treatment of hypoventilation has been considered. Its use in the supportive treatment of hypotension is sound because oxygen serves two purposes: by increasing the oxygen content of the circulating blood (mostly in the plasma), vital organs may remain viable or function more normally; and there is a small amount of vasoconstriction in the capillary bed which aids in elevating blood pressure.[11]

With these supportive measures having been instituted one can then consider the various specific causes of hypotension previously discussed and treat the patient accordingly.

Blood replacement.—No doubt one of the major contributions to the field of surgery in the last half century is the storing and administration of human blood. There are definite dangers associated with receiving a blood transfusion but these are far outweighed in many types of surgical procedures that would be fatal without blood replacement. "Shock" has been a killer for many years, relying primarily on a lack of circulating blood volume and adequate organ perfusion in its death-dealing.

When blood loss is properly replaced during surgery, the problems in the postanesthetic period are considerably lessened. Continuing or sudden and occult hemorrhage must always be considered in a patient suffering postoperative hypotension. Simple and rapid blood volume determinations would greatly aid in diagnosis and treatment of this condition, but as yet are not universally available. The measurements of hemoglobin and hematocrit are only partly helpful as they only measure the amount of hemoglobin or ratio of red cells to plasma in a small portion of an unknown volume of blood. An analogy would be the determination of an unknown quantity of air in a large tank: if one measures the oxygen and nitrogen content of a sample, one finds 21 per cent and 79 per cent respectively, but one still does not know how much air is in the container.

The physiologic signs of hemorrhagic shock remain the best criteria for blood replacement. The classical signs are: rapid, thready pulse, hypotension (usually with a narrow pulse pressure), pallor and a cold and clammy skin. Drugs used before and during anesthesia may alter or even mask some of these signs, but hemorrhage must still be ruled out.

The best treatment for blood loss is the intravenous administration of compatible whole blood. Until such blood is available, a plasma volume expander such as liquid human plasma or Dextran may be used. The safe use of human plasma has been accomplished with the introduction of a liquid stored form.[12] The transmission of viral hepatitis has been virtually eliminated if the plasma is derived from a pool of no more than 10 donors then stored in liquid form at from 30 to 32 C. for at least six months. In addition the plasma may be subject to ultraviolet irradiation. With this improved safety, liquid stored plasma has become the volume expander of choice when compatible whole blood is unavailable. A word of caution about Dextran must be added; this substance can interfere with typing and cross matching of blood for several hours after its administration. Also there is increased bleeding time if more than 1500 cc. of Dextran is given at one time.[13] One must not forget that plasma and other plasma volume expanders do not contain oxygen-carrying hemoglobin and are at best, only partial substitutes for whole blood.

Maintain cardiac output.—In the postanesthetic period, the maintenance of adequate venous return to the heart becomes paramount. Adequate blood replacement will do much to satisfy this requirement. The patient's position will also influence venous return—the most physiologic position being supine, not the head down or infamous "shock" position. If one wishes to drain blood from the lower extremities, they alone should be elevated. Myocardial contractility is probably improved by oxygen administration. Occasionally there are patients requiring specific cardiotonic drugs (e.g., digitalis compounds, adrenaline, calcium).

Correct loss of peripheral resistance.—There is the unusual occasion when a vasoconstrictor should be used in the management of postanesthetic hypotension. Oxygen is a mild vasoconstrictor and is useful. There are rare cases of hypotension that are responsive only to steroids or sodium administration. The use of norepinephrine (Levophed) as a routine treatment of hypotension is both injudicious and to be condemned. If vasoconstrictors are to be used, a mild one such as methoxamine (Vasoxyl) should be tried first.

These supportive measures will usually correct postanesthetic hypotension. If hypotension persists, the other physiologic causes discussed should be reviewed and specific therapy instituted.

SUMMARY

The postanesthetic period is a critical time in patient care because of pharmacologically induced physiologic derangements. Hypoventilation and hypotension are the most common problems encountered. Proper therapy should initially be supportive. With knowledge of ventilatory and circulatory physiology, specific management can then be instituted. More often than not, the supportive measures alone will suffice for proper patient care in the immediate postanesthetic period.

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SU 8341

(Continued from page 518)

The severity of the hypertensive disease as judged by Goodyer's classification[4] remained the same during both the hydrochlorothiazide and Su 8341 periods.

COMMENT

The blood pressure response during the hydrochlorothiazide period is comparable to that obtained during Su 8341 therapy for the whole group (table 3). To maintain the same degree of response, when hydrochlorothiazide was replaced by Su 8341 guanethidine was increased from an average dose of 48 mg. o.d. during hydrochlorothiazide to 50.62 mg. o.d. during the Su 8341 period in 11 of these 15 patients. These findings indicate that Su 8341 at an average dose of .25 mg. t.i.d. is about equally as potent an hypotensive agent as hydrochlorothiazide at an average dose of 42 mg. t.i.d. It is possible that a higher dosage of Su 8341 might be more effective than hydrochlorothiazide.

In the present study which lasted approximately eight weeks the serum electrolytes showed no significant variation during or at the termination of Su 8341 administration as compared to those determined at the termination of hydrochlorothiazide therapy. The rise in serum K from 5.3 milliequivalent to 6.5 in patient No. 1 remains unexplained; this patient was symptom free. The CO_2 of 12 and 14.9 milliequivalents in Pts. 5 and 10 respectively was not corroborated by the clinical picture of an electrolyte imbalance. The side effects in general were more frequent during Su 8341 therapy than during hydrochlorothiazide administration but were not sufficiently severe in any case to require a change in medication.

CONCLUSION

Comparison of eight week periods of administration of Su 8341 and hydrochlorothiazide was carried out in a group of 15 hypertensive patients. In the dosage used Su 8341 was shown to be about equally as potent as a hypotensive agent. No important variation between the two drugs was noted in their effect on the severity of the hypertensive disease and the body weight. In this study the administration of neither drug resulted in hypokalemia. Clinical trials using a higher dosage of Su 8341 might show a greater hypotensive effect but it seems unlikely that any major clinical advantage over hydrochlorothiazide would be demonstrated.

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A Maternal Death From Acute Hepatitis

Report of a Case

Acute hepatitis is seen with increasing frequency in pregnant, parturient and puerperal women. This results from the necessity of using blood and products derived from blood in the management of common obstetric complications in which hemorrhage is their common denominator. The problem is compounded by two well documented facts. (1) The liver is much more vulnerable in pregnancy as evidenced by the higher mortality rate of viral hepatitis at that time. A mortality of 5 to 10 per cent is given by Duncan E. Reid as compared with less than 1 per cent in the nonpregnant state.[1] (2) Recipients of whole blood develop acute hepatitis in about .5 per cent of the cases.[2] The incidence of serum hepatitis following the use of pooled plasma has been reported as high as 9.3 per cent. In a report from Los Angeles County Hospital, two cases of homologous serum jaundice occurred in 38 patients who received fibrinogen.[3] This was an incidence of about 6 per cent. Whereas all prospective donors are carefully questioned concerning a history of jaundice, and those in whom there is any suspicion of previous hepatitis are rejected, still about one donor in 200 is a carrier of the hepatitis virus (virus B) in his serum. There is no satisfactory method to detect the presence of this virus. Julius Rosenberg[2] using the thymol turbidity test states that it is an impractical method for detecting carriers of viral hepatitis, because of the high rate of 10 to 15 per cent of elevated thymol turbidity levels in the normal population, and because some carriers have normal liver function tests.

It becomes apparent therefore that blood and blood products, although frequently lifesaving, may harbor a virus which may be fatal in 5 to 10 per cent of those who develop serum hepatitis during pregnancy. It is incumbent to exercise a nicety of judgment based on a careful evaluation of the case when ordering any material known to harbor this virus in even .5 per cent of the cases.

The necessity for replacing blood loss is ordinarily evident, and the use of whole blood, although not without danger, is far less hazardous than the use of such substances as pooled plasma and fibrinogen. In addition, fibrinogen deficiency as a cause of a clotting defect has received much more attention than the presence of heparin-like factors or fibrinolytic agents. The failure of the blood to clot, in the clot observation test, may lead to the administration of fibrinogen when heparin-like factors or circulating fibrinolytic agents are in reality the cause of the clotting defect.

The danger of hepatitis inherent in the administration of blood and products derived from blood is discussed and a case of maternal death from serum hepatitis is presented.

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In addition to the clot observation test, normal control blood should be added to equal parts of the maternal blood. If the combined specimen fails to clot, this indicates the presence of a heparin-like factor.

If an equal amount of maternal blood is added to clotted normal blood and if the clot dissolves this indicates the presence of fibrinolysin in the test blood.[3]

These simple bed side tests may pinpoint the clotting defect, and lead to the use of protamine sulfate when a heparin-like factor is responsible or hydrocortisone when a circulating fibrinolysin has been demonstrated.

Case Report

Mrs. M. C., a 35 year old white female, gravida V, Para IV, entered St. Mary's Hospital for the first time on January 14, 1962. Her expected date of confinement was February 15, 1962. Her membranes had ruptured spontaneously six days before admission. She started into active labor at about 10:00 p.m. the day of admission. The contractions remained mild until 6:35 a.m., the morning following

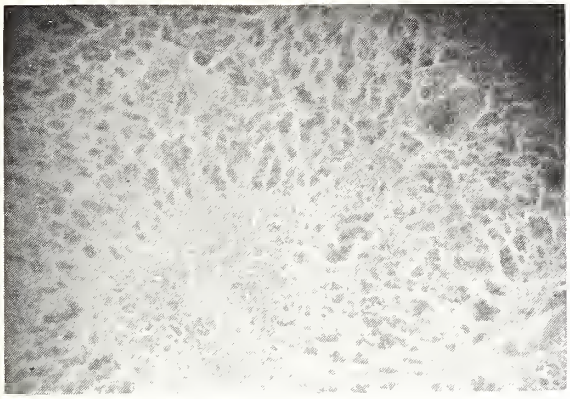

Fig. 1. Reveals central and paracentral necrosis.

admission when they became tetanic in character. Seventeen minutes later she delivered a stillborn male weighing 2340 grams. The placenta followed the delivery of the baby by three minutes, and the episode was diagnosed abruptio placenta. Uterine bleeding was profuse and the patient went into shock. Blood taken at this time for the clot observation test failed to clot. A clinical diagnosis of afibrinogenemia was made and the patient was given four grams of fibrinogen in addition to three units of blood. Blood sent to the laboratory revealed a fibrinogen level of 195 mg. Her recovery was uneventful and she was discharged January 26, 1962.

On March 15, 1962 (59 days after receiving blood and fibrinogen) she entered St. John's Hospital complaining of malaise, anorexia and nausea of two days' duration. This had progressed to vomiting and on admission she was mildly icteric. Physical examination was not remarkable. The jaundice rapidly deepened, and neurologic manifestations began to occur. She began to bleed from the gastrointestinal tract, and 48 hours after admission became comatose. The blood pressure dropped to hypotensive levels. She became anuric and expired at 1:10 a.m., March 21, 1962, after an illness of seven days. An autopsy was performed.

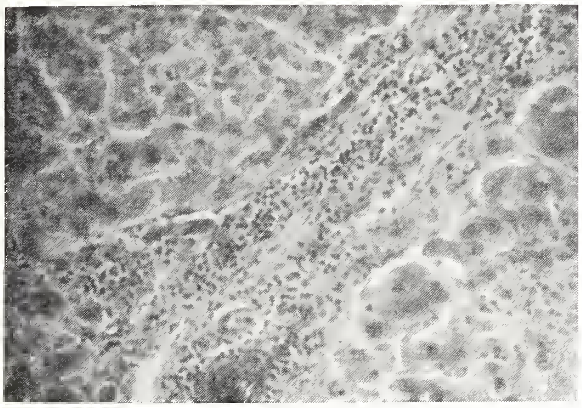

Fig. 2. Reveals infiltration of mononuclear cells most marked in the portal areas. The surviving liver cells were mainly limited to the periphery of the liver lobules.

Autopsy Summary.—The liver weighing 1350 gms. was unusually flabby, with a translucent capsule, and showed marked wrinkling. Upon gross section a uniform "nutmeg" mottling was noticed. The microscopic picture was one of a central hepatitis with central and paracentral necrosis, and collapse of the parenchyma with infiltration (markedly in portal areas) of mononuclear cells. Necrotic areas were confluent but well demarcated from the surviving more peripheral lobular tissues. There was no fibrosis or healing process noted.

The right kidney weighed 230 gms. and the left, 250 gms. The renal capsules stripped easily from the smooth, pale, tan yellow surface. The average cortical thickness was 0.6 cm. and the medulla was intensely congested. Microscopically the renal lesions were those of a "lower nephron nephrosis" with midcortical tubular degeneration, scattered adjacent interstitial foci of mixed inflammatory cells and introtubular pigment deposition. Micro-calculi in spherical form were noted in the proximal nephron and may have been a manifestation of the aminoaciduria of the fulminating hepatic necrosis. Other pertinent pathologic findings were edema and hyaline membrane formation of both lungs, postpartum uterus (nine weeks) with failure of involution of the placental site, focal hemorrhagic phenomenon of the urinary and gastrointestinal tract, acute diffuse ulcerative esophagitis, and multiple, acute diffuse ulcerative esophagitis, and multiple, acute ulcerations (stress type) of stomach.

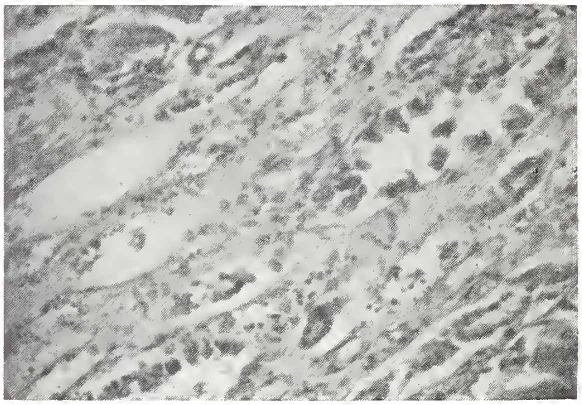

Fig. 3. The renal lesions were those of "lower nephron nephrosis."

DISCUSSION

Acute hepatitis is caused by one of two hepatotropic viruses. The virus of infectious hepatitis is designated as virus A, and the virus of serum hepatitis is designated as virus B. Clinically the two forms cannot be distinguished. They both result in an acute diffuse necrosis of liver cells.

Virus A produces both a sporadic form which is usually mild and has in the past been referred to as catarrhal jaundice and an epidemic form which was common among the troops of World War II, and is much more severe. The fulminating cases have in the past been referred to as acute yellow atrophy of the liver. In this form of the disease the virus is excreted in the stool, and the disease is spread by the oral route.

Virus B is found in the serum of carriers, and is the type that has been referred to as syringe jaundice or homologous serum hepatitis. It is this iatrogenic form of the disease in the case presented. In this fulminating form of the disease the lesions are found in the liver and kidneys and sometimes the brain. In this case there was extensive destruction of liver cells. Both cytoplasm and the nucleus disappeared without a trace. Inflammatory cells, often polymorphonuclear leukocytes, are seen in abundance in the portal areas. The necrosis of liver cells is typically at the center of the liver lobule, but it may be diffuse or massive as in this case. New liver cells regenerate in the framework left by the necrotic cells.

In the kidneys there may be massive degeneration of the kidney tubules. The presence of lucine and tyrosine in the urine, which are protein cleavage products of necrotic liver cells, favors the view that the kidney lesions are secondary to the liver damage.[4]

In the fulminating case, death may occur within 10 days. The onset is sudden with anorexia, vomiting and profound jaundice. The liver rapidly diminishes in size as evidenced by diminution of liver dullness. Delirium, coma and death may rapidly follow. In infectious hepatitis the mortality is .1 to .2 per cent whereas in serum hepatitis a mortality as high as 20 per cent has been recorded.

In view of the danger inherent in the administration of fibrinogen a mechanism should be established so that any case of hepatitis that follows the administration of fibrinogen would be reported to a central agency that would immediately remove the remainder of the infected lot from use.

Since more than .5 per cent of adults are carriers of hepatitis virus, the single most important measure for preventing the disease is the selection of a panel of donors whose blood is used for transfusion with sufficient regularity and follow-up to be assured that they are not carriers of the virus.[5]

The success of gamma globulin, 10 cc. given twice, at intervals of one month, should be considered when multiple transfusion or products derived from human blood are given. Duncan's study proved that a single dose of 10 cc. of gamma globulin was effective in retarding the onset of acute homologous serum hepatitis, but not in preventing it.[6]

SUMMARY AND CONCLUSIONS

1. A fatal case of serum hepatitis has been presented.
2. The danger inherent in the administration of blood and products derived from blood has been discussed.
3. It has been suggested that lot serial numbers be recorded whenever a patient is given fibrinogen, and that any case of serum hepatitis be reported to a central agency empowered to withdraw all the remaining fibrinogen from the infected lot.
4. The administration of gamma globulin has been suggested as a possible means of prophylaxis.
5. A method for differentiating the clotting defect at the bedside is suggested.

We wish to thank J. B. O'Neil, M.D., and J. McCann, M.D., for permission to report their case, and W. Drake, M.D., for the autopsy findings.

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Thermonuclear Survival

Special Civil Defense Problems of Cities

The civil defense problems of cities differ in degree from the civil defense problems of rural and suburban areas. Since cities have large populations in a limited space, they present concentrated targets to an enemy who may wish to kill as many Americans as possible. The opponents of civil defense have automatically assumed that an enemy would concentrate his attack on cities, and would wipe out all the inhabitants despite civil defense measures. This assumption is, however, not accepted by many who have studied the details of civil defense.

As an aid to understanding the problem, it is helpful first to consider the minima and maxima of the situation. That is, one may first consider what an enemy must plan on if he intends to kill 99 per cent of the population of our cities, despite adequate civil defense. Then, one may consider what would happen if an enemy decided to avoid any attacks on American cities at all. After defining in this fashion the probable limits of the situation, it will be seen that an attack pattern on the United States would fall somewhere between the two extremes, and that the effectiveness of civil defense for cities would vary with the attack pattern.

Enemy Attack Pattern to Kill 99 per cent of Population in Sheltered Cities.—For this calculation, it is helpful to take New York City as an example. Approximately 7.5 million people live in 309 square miles. Assuming that these people had shelters buried under five feet of earth, with blast resistance to 100 pounds per square inch and other features as described in earlier articles. Such shelters can be made of corrugated steel at a cost of $100 to $200 per life. (We will not consider firestorm for the moment, since it will be discussed separately toward the end of this article.)

Shelters of this type can protect up to one mile from ground zero of a 20-megaton bomb. The 20-megaton bomb would then kill directly all sheltered people in a 3.1 square mile area. Roughly speaking, it would therefore require about 100 20-megaton bombs or 2,000 megatons to kill 99 per cent of well sheltered people in an area equivalent to New York City. Other large cities are less densely populated than New York, so that it would require more than 60,000 well aimed megatons to kill directly 99 per cent of a well sheltered urban American population. This figure would not include the attack on military bases and missile installations. This estimate will vary with the size of bomb used. If 100-megaton bombs are used, less bombs, but more total megatons of attack would be needed. If bombs under 20-megatons were used, more bombs, but less total megatons of attack would be needed. Theoretically, it might be possible for an enemy to strike with enough megatons to wipe out all cities, military bases and missile installations. A reasonable estimate would be about 80,000 megatons. However, one should ask what such an attack involves. If Polaris missiles were used, it would require over 100,000 missiles from about 8,000 Polaris submarines. If the largest operational Russian missiles were used, it would require about 10,000 of them. Clearly, such armament is expensive, and cannot be built rapidly. It is hardly likely that in the near future any enemy will have such a capability.

Enemy Attack Pattern Which Avoids American Cities.—If an enemy attack avoided direct

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This continues a series of articles on thermonuclear survival. These include material previously published in the *New York State Journal of Medicine,* and are published with permission of that journal.

Dr. Garb is secretary of Medical Education for national Defense at the University of Missouri. He is Associate Professor of Pharmacology, Department of Physiology and Pharmacology, at the University of Missouri School of Medicine.

Reprints of individual articles will not be available but reprints of the entire series will be made available if there is sufficient demand.

hits on American cities, the only major hazard would be fallout. The fallout from a 20 megaton bomb (ground burst) will kill unprotected persons in a 10,000 square mile area. Thus, to kill 99 per cent of *unprotected* persons in approximately 3 million square miles (not counting Alaska), would require about 6,000 megatons. This figure is within the probable capacity of an enemy nation in the near future.

On the other hand, even minimal civil defense shelters in cities could save most of the people from dying directly as a result of an attack of this nature and magnitude.

Probable Enemy Attack Patterns.—It is extremely improbable that an enemy would scrupulously spare all our cities from direct attack, or that he would spend hundreds of billions to kill our entire urban population. An actual attack would probably fall somewhere between these two extremes. Our analysis shows that without any civil defense, a feasible enemy attack, directed mainly at military targets would, as a "bonus," kill most of our urban population. If we had adequate civil defense, an enemy attack directed primarily at military targets would kill only a small proportion of our urban population. Thus, even minimal fallout shelters in cities protect against enemy missiles launched upon our military installations.

The minimal fallout shelter, however, provides little protection against missiles which strike cities. Blast and fire protection must be added for a reasonable degree of protection.

Blast Danger and Protection.—Most existing buildings are extremely vulnerable to blast effects. Thus, a single 20 megaton bomb would probably kill most people in ordinary buildings within seven to eight miles of ground zero—an area of more than 25 square miles. Deep basements offer more protection. However, really adequate blast protection is not generally available in most basements of large city buildings. Special construction is needed. Where space permits, corrugated steel shelters are the most practical and economical. They can be buried under streets, parks and schoolyards. In heavily built-up areas, heavy reinforced concrete sub-basements may be needed. They would cost up to twice as much as the steel shelters.

Firestorm Danger and Protection.—The firestorm danger has been greatly exaggerated by opponents of Civil Defense. It is a serious problem, but one which can be solved. First, it is helpful to consider a few basic facts about firestorms. (More details are presented in another article.)

1. The intensity and duration of a firestorm depend on the concentration of inflammable materials—not the means of ignition. If the fuel is present, a match, a lamp kicked over by a cow, incendiary bombs or a hydrogen bomb can start a firestorm. Once started, it will burn so long as fuel is present. In 1881, a firestorm in Michigan burned out 1,800 square miles, and developed winds strong enough to lift people off the ground.

2. Firestorms do not spread outward, since the winds blow inward.

3. Heat and duration of a firestorm do not depend on its size beyond a certain limit. Thus, temperatures in the center of a two square mile firestorm could be similar to those in the center of a firestorm 1,000 square miles in size.

4. People have survived in the midst of firestorms when they had adequate shelter. We have heard of the victims of the Hamburg firestorms in World War II. Many of these victims were suffocated, or even cooked while in shelters. However, those were inadequate shelters, not designed for fire protection. Other people in Hamburg, in good shelters did survive. In fact, 85 per cent of the population in the Hamburg firestorm area survived.[1]

5. Most firestorms are over in six hours. The concentration and arrangement of inflammable materials in American cities are such as to make it unlikely that a true firestorm would last longer than six hours, although isolated fires might continue for longer periods.

6. The problem of "hot rubble" can easily be handled. Some opponents of Civil Defense have said that for several days after a firestorm, "hot rubble" near the air-intake pipes would heat incoming air to lethal temperatures. If this problem really exists, and is not merely another synthetic hurdle which some people are trying to place in the path of civil defense efforts, it can be solved easily. After the firestorm, while the shelter is still sealed, the output end of the blower should be connected directly to an exhaust pipe, using flexible steel tubing and sealing any joints with clay or mud. With this arrangement, air can be pumped from intake to exhaust without getting into the shelter itself. An hour or two of pumping air through this system will cool the rubble around the intake vent enough to permit fresh air to be drawn in for breathing purposes.

7. Three feet of earth give almost complete

(Continued on page 536)

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[1] Broido, A.: Surviving Fire Effects of Nuclear Detonations, Bull. Atom. Sc. **12**:20-23 (April) 1963.

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THERMONUCLEAR SURVIVAL

(Continued from page 532)

protection against heat radiation from a firestorm. On the other hand, concrete is a much poorer insulator against heat, and much greater thicknesses would be needed. Concrete covered with earth can be used in some situations.

Burial Under Rubble.—Although many people seem concerned over the danger of being buried under rubble, it is a minor problem which can readily be solved. In a well equipped shelter, there should be digging implements, and the design should include an emergency exit. A group of people, in a well stocked shelter should have at least a week in which to tunnel their way out of any overhead rubble. Those who are concerned that the rubble will block out entrance of air can be reassured. Rubble does not pack down solidly. More than 30 per cent of the total consists of open space through which air can pass freely.

Shortage of Food and Water—The danger of a shortage of food and water has not received much attention in relation to other problems which will face city dwellers. Government directives advise that a two week supply of food be stored in a shelter. It is assumed, apparently that a further supply will be brought into the devastated area after two weeks. This assumption, however, will not bear close scrutiny. The likelihood is that after any sort of major attack upon the U. S. the usual channels of distribution of food will be so disrupted that city dwellers could not depend on receiving anything to eat for at least six months unless extra food stocks were stored in close proximity to the city. This shortage of food would probably be the second greatest danger facing the city dweller, second only to the danger from radioactive fallout. In most wars of the past, the greatest killer was not the weapons of war, but starvation. In a thermonuclear war, the chances are that the same problems of food shortage will be present. Unless something positive is done to provide more food for city dwellers, starvation may kill more people than blast and firestorm combined.

Suggested Measures to Improve Survival Chances of City Dwellers in the Event of a Thermonuclear Attack.—1. The government should store large supplies of whole grain in sheltered areas surrounding large cities, preferably in underground cellars, caves or other facilities. As described in more detail in the paper on Food, whole grains can be eaten as such in an emergency and will sustain life and health until national recovery is under way. The supply of whole grains stored around cities should provide a minimum of six months ration for all residents. It is further recommended that these stored grains, and possibly other foodstuffs, be obtained by increasing our national supply of surplus supplies rather than by simply moving some of the supplies from the farm states to the cities.

2. Building codes in cities should be revised so that adequate basement shelter area is available in new construction, with considerable resistance to blast effects.

3. In the design of new buildings in congested areas, consideration should be given to incorporating underground tunnels which will lead from the basement of one building to the basements of several adjoining buildings.

4. Missile sites which are too close to large cities should be moved further away. The minimum distance from a missile site to a city should be 40 miles. The U. S. Navy uses this figure of 40 miles as a minimum distance which it recommends that its installations be kept from a city. Despite this, some Air Force missile sites have been located much closer to the large cities, such as Phoenix. Fortunately, there is a simple solution to this problem. The U. S. is now removing and phasing out its obsolescent missiles in Turkey, Britain and other overseas areas. Therefore, the ones which are emplaced around cities such as Phoenix could readily be removed and their place in the national arsenal could be taken by newer missiles emplaced at least 40 miles away from the city.

In summary, it may be pointed out that city dwellers will be at greater risk in the event of a thermonuclear war than will people living in rural or suburban areas. However, this increased risk is not insurmountable and vigorous civil defense measures on the part of the federal government, localities, businesses and the people who are living in the area will increase greatly the chances for survival of the residents.

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Kenneth C. Hollweg, M.D.

President's Message

June, graduation time, is here and many young men and women will start out on their life's work. Among those will be many who received the M.D. degree.

However, those many students who have not completed their schooling will be planning for the opening of school in the fall. And among those will be many medical students who are continuing in one of the most expensive educational endeavors. Probably no students are more likely to run into financial difficulties.

The Missouri State Medical Foundation was established by the Missouri State Medical Association for the purpose of assisting these young Missourians to continue their education and to date 184 loans have been made. In the May issue a page was devoted to show appreciation to those that have helped in this work. I know that all names that have contributed by this time are not included, but a closing date had to be set for printing purposes.

But I do want to call to the attention of all members that a little later in the summer, the requests for more loans will come in and urge that all members give their support to the Foundation which is serving such a worthy cause.

Kenneth C. Hollweg, M.D.

EDITORIAL

AMA TO MEET IN ATLANTIC CITY

The 112th annual meeting of the American Medical Association will be held June 16 to 20 in Atlantic City.

An attendance of 15,000 physicians is anticipated.

AMA President George Fister, M.D., said that with "better transportation facilities to Atlantic City and more up-to-date room accommodations, attendance at the 1963 meeting should be high."

"Since we last met there," Dr. Fister said, "more than 4,000 new motel rooms have been provided. The auditorium has been renovated, including new escalators and additional floor space. The convention bureau has arranged for a new type of air-land shuttle service between Philadelphia and Atlantic City."

A new feature of the program will be a session on "Physician and Clergy Meet in Patient Care," in which leading clergymen and physicians will discuss their common problems in working with patients. Milford O. Rouse, M.D., of Dallas, is chairman.

Featured speakers will be The Most Rev. Fulton J. Sheen, Catholic Bishop of New York and a TV personality, and Edward R. Rynearson, M.D., of the Mayo Clinic, Rochester, Minn. Dr. Rynearson appeared before the AMA annual meeting last year in Chicago. He questioned the use of extreme measures in prolonging the life of terminal cancer patients.

"The ill person often is more than physically ill," Dr. Rouse said. "He is—at least to a degree—also mentally, spiritually and socially ill at the same time. All of these aspects must be considered in treatment.

"Often the physician and the clergyman can help each other in dealing with the patient or his family in cases of serious illness," Dr. Rouse said.

The Rev. Dr. Paul B. McCleave, Chicago, director of the AMA's Department of Medicine and Religion, said the program is the result of a mutual exchange of information between medicine and the clergy at the local medical society level throughout the country.

The popular Multiple Discipline Research Forum will be held for the third year at the 112th annual meeting.

More than 200 of the nation's top scientists, representing a cross section of nearly every medical specialty, will present new and original papers on three days of the meeting, June 18 to 20.

Physicians and medical scientists who have carried out original investigation of fundamental problems in medicine and medical practice were invited to submit abstracts of their work to the Forum Committee. Chairman is Edwin H. Ellison, M.D., professor and chairman of the Department of Surgery, Marquette University Medical School, Milwaukee.

The research forum program represents an avenue by which physicians can keep abreast of general scientific progress in medicine and thereby bring to their patients the best that medicine has to offer, Dr. Ellison said.

The program takes into account the fact that many advances in medical research today come from basic science and clinical laboratories where the newest and most complex technics of chemistry, physics and biology are applied to studies of disease, he said.

"To remain alert and effective throughout their professional careers," he said, "physicians are well aware that they must now possess a much broader knowledge of the pre-clinical sciences than ever before."

The scientific program will include eight general scientific sessions, dealing with strokes, genetics, cancer, chemotherapy, peptic ulcer, myocardial infarction, backaches, obesity and venereal disease.

The session will mark the 17th time that the AMA has met in Atlantic City since 1900. At the last meeting there, in 1959, the total attendance was 32,882, including 13,143 physicians.

David B. Allman, M.D., who practiced surgery in Atlantic City for 35 years and is a past president of the AMA (1957-58), is honorary chairman of arrangements. The local chairman is Charles Hyman, M.D.

Scientific session of the meeting will be held in the City Auditorium, on the boardwalk facing the Atlantic Ocean. Scientific meeting rooms and industrial exhibit will be on the boardwalk level of the Auditorium. Scientific exhibits will be on the Auditorium's lower level. A few scientific sessions will be held in hotels near the auditorium.

The Traymore Hotel and the new Colony Motel will be joint headquarters for the meeting.

Ramblings of the Field Secretary

One hundred and fifty people attended the one-day Conference on Medical Quackery held at the Governor Hotel, Jefferson City, Wednesday, May 1. The session was sponsored by the Missouri Health Council and patterned, on a small scale, after the National Congress on Medical Quackery held in Washington, D. C., October 6-7, 1961.

The program was of high quality and those who participated were particularly qualified for their presentations. The Wednesday morning session included talks by: Hubert Wheeler, Commissioner, State Department of Education, Jefferson City, "Quackery in Health Matters from the Standpoint of Education"; R. W. Lamont-Havers, M.D., Medical Director, The Arthritis and Rheumatism Foundation, New York, "Quackery in Arthritis"; Roald N. Grant, M.D., Director of Professional Education, American Cancer Society, New York, "Quackery in Cancer"; and Philip L. White, Sc.D., Director, Department of Foods and Nutrition, AMA, Chicago, "Nutritional Quackery."

Morning panel with Drs. White, Lamont-Havers, Moderator Hollweg, Wheeler and Grant.

Following these formal talks Kenneth C. Hollweg, M.D., Kansas City, President, MSMA, served as moderator for a panel discussion on questions from the audience with the speakers serving as panelists. This proved to be a lively, interesting and informative project and well directed by President Hollweg.

The afternoon session included talks by: Roy S. Pruitt, Director, St. Louis District, Federal Food and Drug Administration, St. Louis, "Quackery, A National Health Problem"; J. E. Covington, Dean, School of Law, University of Missouri, Columbia, "The Philosophy of the Law in Relation to Deviant Behavior and Personal Option"; Raymond A. Ritter, M.D., Cape Girardeau, member of the State Board of Registration for the Healing Arts of Missouri, "The Licensure Aspects of Health Quackery"; and Oliver Field, Director, Department of Investigation, AMA, Chicago, "The AMA Quarrel With the Quacks."

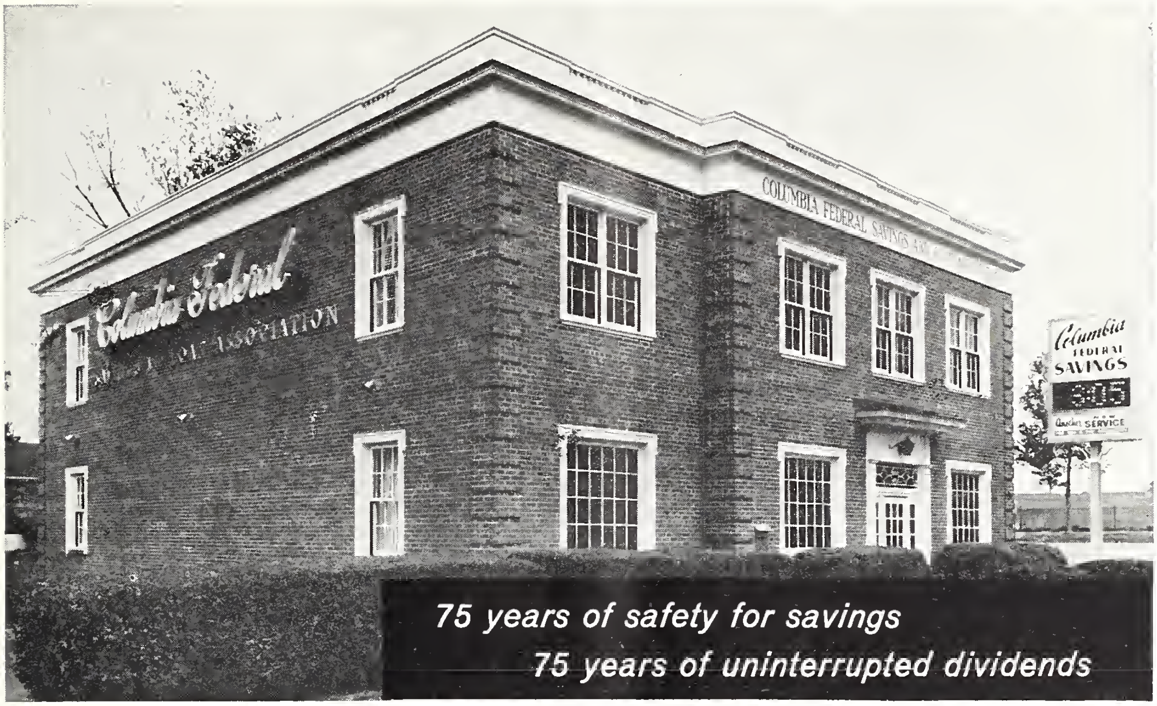
Panel members of afternoon session, Dean Covington, Mr. Pruitt, Moderator O'Brien, Mr. Field and Dr. Ritter.

John L. O'Brien, St. Louis, President, Greater St Louis Better Business Bureau, most ably moderated a panel discussion on questions submitted by the audience to the afternoon speakers.

H. M. Hardwicke, M.D., Acting Director, Missouri Division of Health, was called upon for a brief summary of the conference with concluding remarks.

A good number of physicians were in attendance for both morning and afternoon sessions.

A problem seems to go unanswered and that is this: How does one get valuable information as that presented at this May 1 Conference before the people who need it most?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News—Personal and Professional

At a meeting this spring of the American College of Physicians, **M. Donald McFarland**, M.D., Kansas City, was elected a Fellow, and **Robert S. Mosser**, M.D., Independence; **Otto M. Spurney**, M.D., Kansas City, and **Marvin E. Levin**, M.D., St. Louis, were elected Associates.

At a recent meeting of the Sedalia Kiwanis Club, **Carl D. Siegel**, M.D., Sedalia, spoke on the medical self-help training program.

Speaker at a meeting of the Mexico Community Teachers' Association late in April was **James M. A. Weiss**, M.D., Columbia. His subject was "Growing Up."

The Rotary Club of Lebanon had as speaker at a recent meeting **R. W. Froelich**, M.D., Lebanon. He gave a brief explanation of "Hospital Accreditation."

Speaker at a charter night informational meeting of the Jefferson County chapter of the University of Missouri at Festus recently was **Vernon E. Wilson**, M.D., Columbia, Dean of the University Medical School.

At an April meeting of the American Dermatological Association, six men were singled out for preeminence in the specialty. Among the six was **Richard S. Weiss**, M.D., St. Louis.

The Raytown Rotary Club, at an April meeting had as speaker **G. G. Roberts**, M.D., Kansas City, medical disaster director of the metropolitan area.

The Burge-Protestant Hospital Auxiliary, Springfield, recently had as speaker at a luncheon meeting **Jose M. Sala**, M.D., Columbia.

Recently elected president of the Lexington Library Board is **Joseph S. Cope**, M.D., Lexington.

The medical staff of Research Hospital, Kansas City, recently installed **Russel D. Sheldon**, M.D., Kansas City, as president. **Joseph C. Williams Jr.**, M.D., was elected president-elect; **Ira C. Layton**, M.D., was reelected secretary, and **William Y. Eubank**, M.D., was reelected treasurer.

Recently elected officers of the St. Louis Gynecological Society are **Milton Meyerhard**, M.D., president; **Thomas M. Mier**, M.D., vice president; **Carl J. Dreyer**, M.D., secretary; **Arthur Bortnick**, M.D., treasurer and **M. H. Backer Jr.**, M.D., editor.

A reception honoring Dr. and Mrs. **Basil O. Hartwell**, Drexel, was held at the Drexel School on May 5, honoring Dr. Hartwell for his 50 years in practice.

The 18th District of the Missouri State Nurses' Association had as speaker at a meeting in North Kansas City recently **G. C. Bates**, M.D., Kansas City.

Recently reelected to the Springfield City Council was **C. Souter Smith**, M.D., Springfield.

After 57 years of practice and 33 years on the staff of St. Louis County Hospital, **E. Lee Dorsett**, M.D., St. Louis, is retiring and moving to Indianola, Miss.

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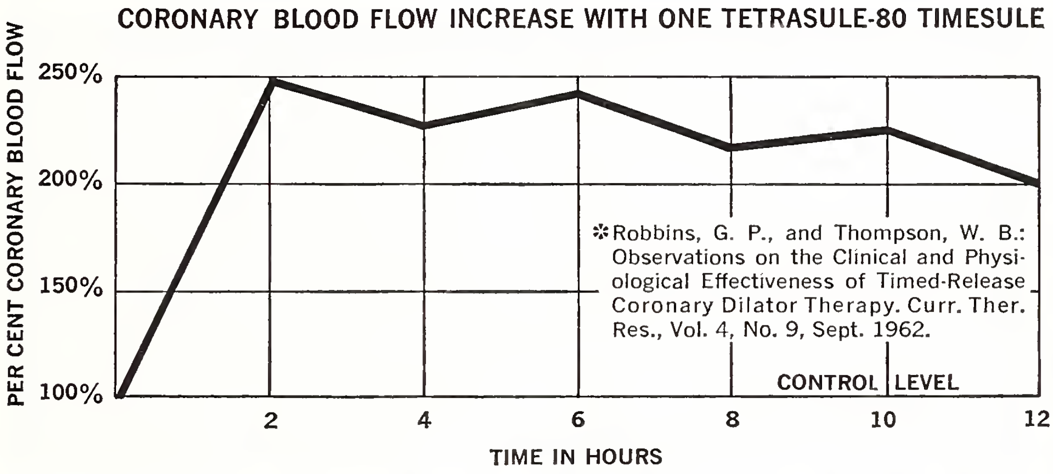

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*Robbins, G. P., and Thompson, W. B.: Observations on the Clinical and Physiological Effectiveness of Timed-Release Coronary Dilator Therapy. Curr. Ther. Res., Vol. 4, No. 9, Sept. 1962.

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New Members

Francis J. Ammatelli, M.D., 605 E. 66th St., Kansas City, has become a member of Jackson County Medical Society. Dr. Ammatelli is a native of Missouri, received his preliminary education at Rockhurst College, and his M.D. degree at St. Louis University in 1957.

Edward T. Auer, M.D., 9 Clayton Ter., St. Louis, has become a member of St. Louis Medical Society. Dr. Auer is a native of Pennsylvania, received his preliminary education at the University of Rochester, N. Y., and his M.D. degree at Temple University in 1943.

Walter R. Bass, M.D., 227 E. 46th St., Kansas City, has become a member of Jackson County Medical Society. Dr. Bass is a native of North Dakota, received his preliminary education at the University of Arkansas, and his M.D. degree at the University of Arkansas in 1959.

William B. Baumann, M.D., 5535 Delmar Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Baumann is a native of Missouri, received his preliminary education at Harvard University, and his M.D. degree at Washington University in 1962.

Harold A. Bauer, M.D., Lockwood, has become a member of Barton-Dade County Medical Society. Dr. Bauer is a native of North Dakota, received his preliminary education at Missouri University, and his M.D. degree at Missouri University in 1959.

Arnold E. Botwin, M.D., 701 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Botwin is a native of Missouri, received his preliminary education at Westminster College, and his M.D. degree at Harvard University in 1948.

Robert N. Dunphy, M.D., 1319 Grant Road, St. Louis, has become a member of St. Louis Medical Society. Dr. Dunphy is a native of Ohio, received his preliminary education at John Carroll University, and his M.D. degree at St. Louis University in 1959.

Ralph R. Hall, M.D., St. Luke's Hospital, Kansas City, has become a member of Jackson Colorado, received his preliminary education at County Medical Society. Dr. Hall is a native of the University of Denver, and his M.D. degree at the University of Kansas in 1957.

Peter B. H'Doubler, M.D., 1560 S. Delaware St., Springfield, has become a member of Greene County Medical Society. Dr. H'Doubler is a native of Missouri, received his preliminary education at the University of Arkansas, and his M.D. degree at Harvard University in 1955.

Ronald C. Hertel, M.D., 1040 Childress Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Hertel is a native of Missouri, received his preliminary education at Washington University, and his M.D. degree at Washington University in 1956.

Glenn E. Hogancamp, M.D., 736 Smith Drive, Ballwin, has become a member of St. Louis County Medical Society. Dr. Hogancamp is a native of Kentucky, received his preliminary education at Murray State College, and his M.D. degree at the University of Louisiana in 1961.

Charles Kilo, M.D., 5855 Cates Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Kilo is a native of Illinois, received his preliminary education at Washington University, and his M.D. degree at Washington University in 1959.

Rodger W. Lambie, M.D., 8926 Mastin St., Overland Park, Kan., has become a member of Jackson County Medical Society. Dr. Lambie is a native of Colorado, received his preliminary education at North Dakota Agriculture College, and his M.D. degree at the University of Kansas in 1959.

Stanley G. McCool, M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. McCool is a native of Pennsylvania, received his preliminary education at Maryville College, and his M.D. degree at Jefferson Medical College in 1934.

John McDonough, M.D., 5203 Chippewa St., St. Louis, has become a member of St. Louis Medical Society. Dr. McDonough is a native of Kentucky, received his preliminary education at Xavier College, and his M.D. degree at St. Louis University in 1956.

Robert R. MacDonald Jr., M.D., 5601 Dewey Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. MacDonald is a native of Oklahoma, received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1961.

Harry G. Moore Jr., M.D., 17 Westmoreland Place, St. Louis, has become a member of St. Louis County Medical Society. Dr. Moore is a native of Alabama, received his preliminary edu-

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cation at St. Louis University, and his M.D. degree at Missouri University in 1955.

Joseph H. Morris Jr., M.D., 3538 Warwick Court, Kansas City, has become a member of Jackson County Medical Society. Dr. Morris is a native of Missouri, received his preliminary education at the University of Kansas, and his M.D. degree at the University of Kansas in 1956.

Robert H. Olin, M.D., 4511 Forest Park Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Olin is a native of Minnesota, received his preliminary education at the University of Minnesota, and his M.D. degree at the University of Minnesota in 1958.

Donald A. Potts, M.D., 3745 Springfield St., Kansas City, Kan., has become a member of Jackson County Medical Society. Dr. Potts is a native of New York, received his preliminary education at the University of Kansas, and his M.D. degree at the University of Kansas in 1962.

Edward S. Rader, M.D., 7828 Milan Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Rader is a native of Missouri, received his preliminary education at Washington University, and his M.D. degree at Washington University in 1956.

Earl W. Shelton, M.D., 4485 Lee Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Shelton is a native of Mississippi, received his preliminary education at Tennessee State University, and his M.D. degree at Meharry Medical College in 1959.

Dermott Smith, M.D., 4919 Buckingham Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Smith is a native of Colorado, received his preliminary education at the University of Nebraska, and his M.D. degree at St. Louis University in 1949.

Edward M. Wittgen, M.D., 6208 Lindenwood Court, St. Louis, has become a member of St. Louis Medical Society. Dr. Wittgen is a native of Indiana, received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1958.

W. Joel Wurster, M.D., 305 W. 43rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Wurster is a native of Kansas, received his preliminary education at Kansas State University, and his M.D. degree at the University of Kansas in 1956.

DEATHS

Parkhurst, Charles L., M.D., Houstonia, a graduate of Missouri State University Medical College, 1901; member of Pettis County Medical Society; aged 90; died March 8, 1963.

Baird, J. Edward, M.D., Excelsior Springs, a graduate of the University of Kansas, 1908; member of Clay County Medical Society; aged 83; died March 19, 1963.

Blanke, Otto T., M.D., Joplin, a graduate of the University of Kansas, 1924; member of Jasper County Medical Society; aged 65; died March 22, 1963.

Schaerrer, Hans, M.D., Kansas City, a graduate of National University of Arts and Science, 1915; member of Jackson County Medical Society; aged 77; died March 23, 1963.

Hooper, Robert N., M.D., Shawnee Mission, Kan., a graduate of the University of Kansas, 1953; member of Jackson County Medical Society; aged 41; died March 30, 1963.

McHale, Thomas C., M.D., Kansas City, a graduate of the University of Oklahoma, 1928; member of Jackson County Medical Society; aged 66; died April 2, 1963.

Costello, Joseph P., M.D., St. Louis, a graduate of St. Louis University, 1918; member of St. Louis Medical Society; aged 70; died April 4, 1963.

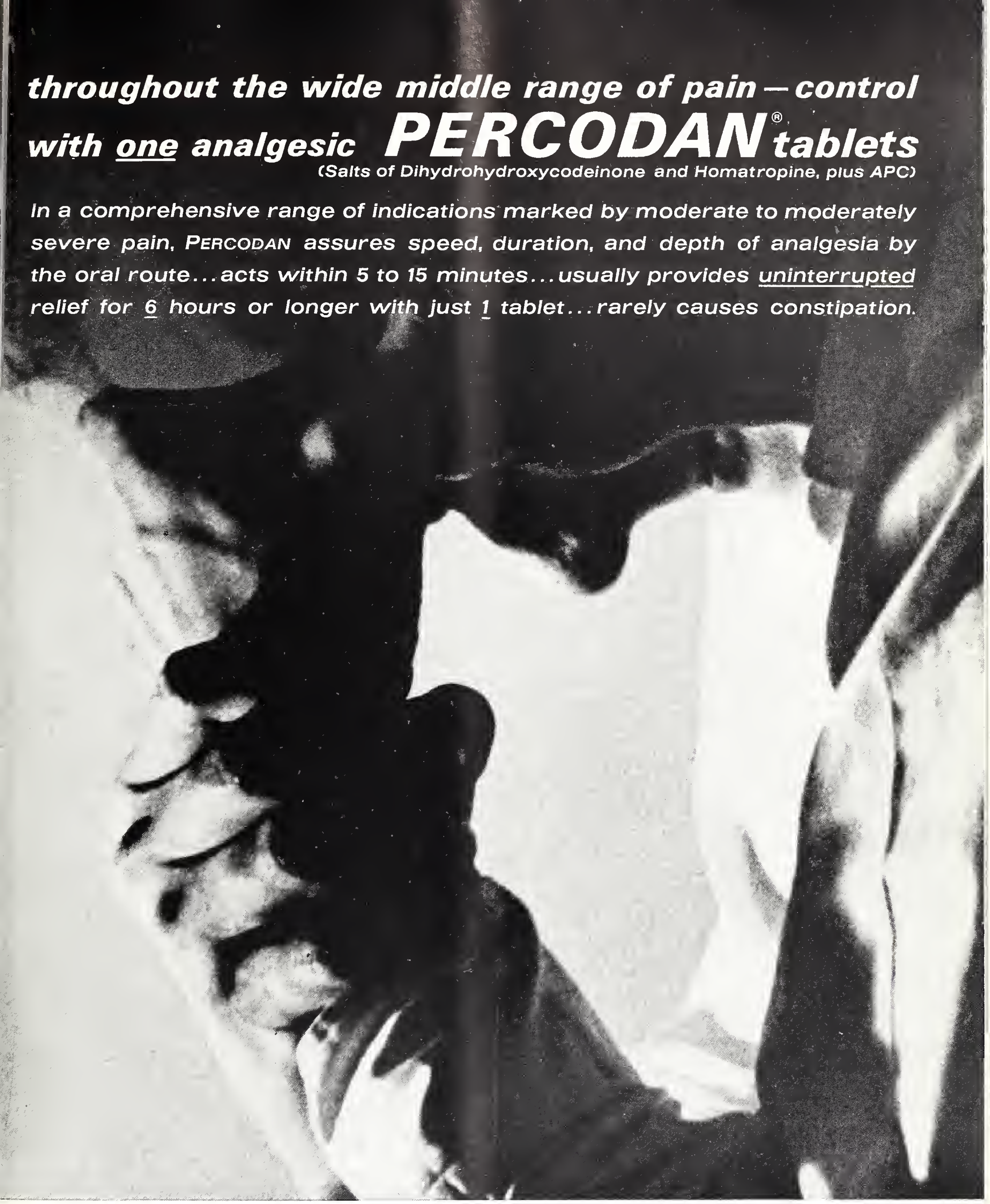
Farris, William W., M.D., St. Louis, a graduate of St. Louis University, 1916; member of St. Louis Medical Society; aged 85; died April 4, 1963.

Schneider, Vincent A., M.D., St. Peters, a graduate of St. Louis University, 1924; member of Lincoln-St. Charles Medical Society; aged 63; died April 10, 1963.

Cannon, W. Joseph, M.D., Ladue, a graduate of Washington University, 1949; member of St. Louis Medical Society; aged 37; died April 20, 1963.

Zeitler, William T., M.D., St. Louis, a graduate of St. Louis College of Physicians and Surgeons, 1921; member of St. Louis Medical Society; aged 82; died April 23, 1963.

Landree, James C., M.D., St. Louis, a graduate of Washington University, 1909; member of St. Louis Medical Society; aged 77; died April 24, 1963.



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County Society News

FIRST DISTRICT

JOSEPH L. FISHER, ST. JOSEPH, COUNCILOR

Buchanan County Medical Society

The eleventh consecutive annual joint meeting of the Buchanan County Medical Society and the Northwest Missouri District Dental Society was held on Wednesday, May 1, in the Empire Room of Hotel Robidoux. Seventy-eight Northwest Missouri and Northeast Kansas physicians and dentists attended the dinner and program.

Presiding jointly at the meeting were the presidents of the two organizations, John R. McDaniel, M.D., and George T. Hopkins, D.D.S. Arrangements for the event were handled by the program committees of the two groups, headed by the two chairmen, F. Gregg Thompson III, M.D., and Harold Allen, D.D.S., of Lathrop.

In a joint action, the two societies voted to send messages of appreciation from the two groups to Mr. Arthur V. Burrowes, Mrs. Hugh E. Miner and Mrs. Manson B. Pettis, leaders in the recent fluoridation campaign. Although the issue failed to carry a necessary majority, it was felt excellent progress had been made and the issue would be reintroduced and carried in a future election.

The speaker was Albert E. Upsher, M.D., pathologist, from Kansas City, who presented an excellent illustrated paper on "Oral Hemorrhagic Problems."

William Redmond, M.D., *Secretary*

Grand River County Medical Society

On April 11, 29 members, wives and guests assembled at the Strand Hotel in Chillicothe for the regular Grand River Medical Society meeting.

Following dinner Russell Hanlon, M.D., of the Department of Obstetrics and Gynecology of the University of Missouri School of Medicine gave an interesting discussion on "Toxemia and Preeclampsia."

During the business meeting it was pointed out how successful the Grand River Hospitality Room was at the recent State Medical Association meeting in Kansas City. A brief discussion about the June meeting ended in tabling any discussion until May.

Guests present were: Dr. Spaulding of Plattsburg; Paul Pallanich of Bristol Laboratories; Normal Baellow of Roezig; and Ben Blackshire of Marion Laboratories.

Jack L. Vinyard, M.D., *Secretary*

SECOND DISTRICT

HARRY L. GREEN, HANNIBAL, COUNCILOR

Chariton-Macon-Monroe-Randolph County Medical Society

A dinner meeting of the Chariton-Macon-Monroe-Randolph County Medical Society was held at the Woodland Hospital in Moberly on Thursday night, April 11.

The scientific program for the evening was presented by Edward B. Shires, M.D., Medical Director of the Rehabilitation Institute in Kansas City. Dr. Shires discussed the overall facilities of rehabilitation in the State of Missouri with special emphasis on the rehabilitation institute in Kansas City. He pointed out that rehabilitation was helpful not only in many physical conditions but also in some mental situations.

Robert Leslie, Director of Vocational Services for the Kansas City Rehabilitation Institute, came with Dr. Shires and made some remarks on the rehabilitation of the epileptic.

Members present were: Drs. D. E. Eggleston and James Campbell, Macon County; F. L. Harms and D. D. Stuart, Chariton County; Josephine Baker, Avery P. Rowlette, J. Will Fleming Jr., T. S. Fleming, Robert H. Young, W. D. Chute, C. C. Cohrs, L. E. Huber, C. C. Smith, Randolph County. Dr. Leopold Lachance of Centralia was a guest.

J. W. Fleming Jr., M.D., *Secretary*

FOURTH DISTRICT

PAUL R. WHITENER, ST. LOUIS, COUNCILOR

Lincoln-St. Charles County Medical Society

William A. Kamm, M.D., St. Louis, Fellow in Radiology and Assistant Radiologist at St. Louis City Hospital, spoke at a dinner meeting of the Lincoln-St. Charles County Medical Society at the Southern Air in Wentzville, Tuesday evening, April 30. His subject was "Mammography."

Considerable work has been done upon this subject at the St. Louis City Hospital and Dr. Kamm gave a fine presentation of the subject.

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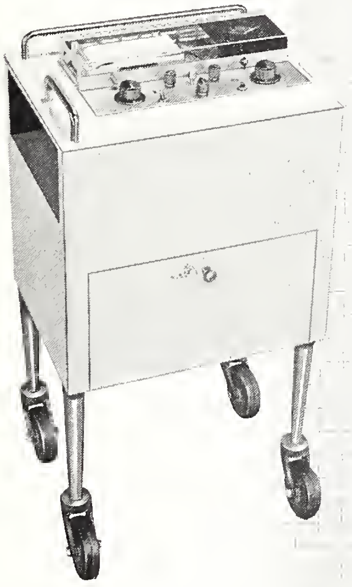

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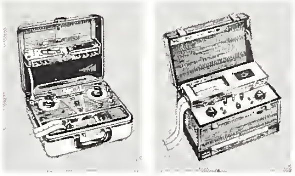

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The evening festivities began with a social hour followed by dinner and then the program.

ROBERT J. FLEMING, M.D., *Secretary*

SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

LAFAYETTE-RAY COUNTY MEDICAL SOCIETY

The April meeting of the Lafayette-Ray County Medical Society was held on April 9, at Lexington. Dinner was served, following which the meeting was called to order by Dr. W. E. Martin. President Martin then turned the program over to Dr. Clark Henry of Kansas City. Dr. Henry gave an interesting discussion of the "Surgical Management of Peripheral Vascular Disease." After this discussion, which was accompanied by a film demonstrating the surgical technic and results of such corrective surgery, an informal discussion was held in which the members participated with enthusiasm.

Guests attending the meeting were Dr. and Mrs. Clark Henry, Kansas City; Dr. and Mrs. Bill Lahue, Kansas City; Dr. Lee Cooper, Warrensburg; and Dr. Oscar Dameron, Warrensburg.

WAYNE BOYDSTON, M.D., *Secretary*

WEST CENTRAL MISSOURI MEDICAL SOCIETY

The regular meeting of the West Central Missouri Medical Society was held at Glenn's Cafe, Highway 71, in Butler, Thursday evening, April 11. The usual social hour preceded the meeting. After an hour of social visitation for those attending the meeting a delicious filet mignon steak dinner with all the trimmings was served. Following dinner President Edward Jones of Harrisonville called the meeting to order. The reading of the minutes of the February meeting was bypassed due to the fact that the secretary was not able to attend and had not been provided with sufficient data to compile a set of minutes. This meeting was a joint meeting of the entire Councilor District. Minutes of the March meeting were not available since this meeting was voted bypassed at the January meeting due to the close proximity of the state meeting.

President Jones introduced Dr. Max G. Berry, internist of Kansas City, who has spoken to us many times in years passed. We always enjoy having him with us as he is well known to all of us. Dr. Berry spoke on the "Pathogenesis of Atherosclerosis, or How to Get Yourself a Coronary." In his usual manner he presented this subject with the usual amount of humor, a few jokes well placed, but left us with considerable meat for thought. We enjoyed his talk and hope he will be back soon.

Following the scientific program a short business meeting was held. Dr. Barger, Councilor, made some remarks relative to the state meeting. The secretary read a request for the names of doctors of each component society who were interested in Civil Defense to be mailed to Civil Defense Chairman, Dr. Siegel. There seems to be a reluctance on the part of doctors to be too much concerned about this matter of civil defense and it is really alarming that we have done so little about it.

No further business, the meeting adjourned to meet in Eldorado Springs in May with Dr. Magee in charge of program and arrangements.

CARTER W. LUTER, M.D., *Secretary*

EIGHTH DISTRICT

DOYLE C. McCRAW, BOLIVAR, COUNCILOR

OZARKS MEDICAL SOCIETY

A dinner meeting of the Ozarks Medical Society and the doctors' wives was held at Crowe's Dinner House in Cassville on Tuesday evening, April 9. The local arrangements for this delightful evening were made by Dr. Mary Newman of Cassville.

The scientific program under the auspices of the Missouri Academy of General Practice was presented by A. McChesney Evans, M.D., and Jose Sala, M.D., of the Ellis Fischel State Cancer Hospital at Columbia. Dr. Evans gave an illustrated lecture on "Is Cancer a Virus Disease?" Dr. Sala discussed "Cancer of the Skin" and showed an excellent collection of slides on this subject.

This scientific program was enjoyable and enlightening, and we are indebted to Drs. Evans and Sala for their outstanding presentations. A business session followed the scientific program and then the Society adjourned to meet at the Shadow Rock Hotel in Forsyth on May 14.

PAUL B. ANDERSON, M.D., *Secretary*

NINTH DISTRICT

E. A. STRICKER, ST. JAMES, COUNCILOR

MID-MISSOURI COUNTY MEDICAL SOCIETY

A dinner meeting of the Mid-Missouri County

(Continued on page 570)

Question:

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Answer:

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References: 1. A.M.A. Council on Drugs: J.A.M.A. 183:469 (Feb. 9) 1963. 2. Gruenberg, F.: Curr. Ther. Res. 2:1 (Jan.) 1960.

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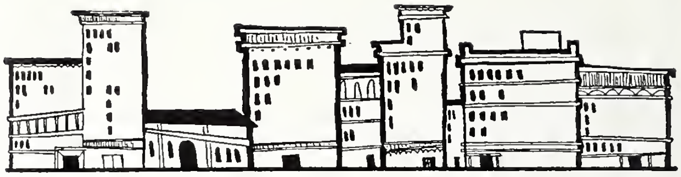
From the Medical Schools



UNIVERSITY OF MISSOURI

Meetings

A medical symposium entitled "Fluid and Electrolyte Problems" was held April 11 and 12 at the Medical Center, sponsored by the School of Medicine and the Extension Division in cooperation with the Missouri Academy of General Practice. A faculty of twelve medical doctors presented the symposium. All but one of the speakers were on the School of Medicine faculty. The visiting participant was Emanuel H. Bresler, M.D., associate professor of medicine at Tulane University and director of research at the Veterans Administration Hospital in New Orleans, La.

A one-day symposium on the "Newborn" was held at the Medical Center April 10, dealing with medical and surgical problems occurring in the perinatal period as well as aspects of the care of healthy newborns. Guest speakers were: Joyce E. Devine, M.D., senior instructor in neurology, St. Louis University School of Medicine; John Herweg, M.D., assistant professor of pediatrics, Washington University School of Medicine; Gerald E. Hughes, M.D., President of the Missouri Academy of Pediatrics; J. Eugene Lewis, M.D., associate professor of clinical surgery, St. Louis University School of Medicine; Herbert C. Miller, M.D., professor and chairman, department of pediatrics, University of Kansas School of Medicine; William A. Silverman, associate professor of pediatrics, Columbia University College of Physicians and Surgeons, New York; and Hulda Wohltman, M.D., assistant professor of pediatrics, Washington University School of Medicine.

The annual spring meeting of the Eastern Missouri Branch of the American Society for Microbiology was held at the Medical Center, March 30. The program comprised presentation of a number of scientific papers and a lecture by guest scientists and members of the staff of the University Medical Center and School of Veterinary Medicine. There was also a discussion of the constitution of the Eastern Missouri Branch, and a tour of the Medical Center.

The annual meeting of the Missouri Society of Anesthesiologists was held at the Medical Center Sunday, April 21. Guest speakers were Robert M. Smith, M.D., director of anesthesiology, Children's Hospital Medical Center in Boston; Charles R. Allen, M.D., professor of anesthesiology, University of Texas Medical Branch; and John R. Lincoln, M.D., director of anesthesiology, Maine Medical Center, Portland.

The Eighth Annual Spring Clinical Conference on "Immunity, Hypersensitivity and Disease" will be held at the Medical Center May 16 and 17. Guest faculty will include: Malcolm M. Hargraves, M.D., Consultant in Medicine, Mayo Clinic, and associate professor of medicine, Mayo Foundation, Rochester, Minn.; Melvin H. Kaplan, M.D., associate professor of medicine, Western Reserve University School of Medicine; Charles Parker, M.D., department of Internal Medicine, Washington University School of Medicine; and John H. Vaughn, M.D., associate professor of medicine, University of Rochester School of Medicine.

Citation of Merit Awarded

Dr. Frederick C. Robbins, University of Missouri alumnus and noted pediatrician who won the 1954 Nobel Prize in physiology and medicine, was awarded a Citation of Merit from the University of Missouri Alumni Association March 26 at a luncheon meeting of the University of Missouri Alumni in the Hotel Muehlebach in Kansas City. The Citation was awarded to Dr. Robbins for outstanding and meritorious service in medicine, as an indication of the Alumni Association's "pride in an alumnus who exemplifies the ideals and leadership so necessary in the preservation of American society."

Visitors

Dr. W. Eugene Knox, associate professor of biological chemistry at Harvard Medical School, Boston, lectured at the Medical Center March 18 as the fifth speaker of the current academic year in a series of lectures on Special Topics in Biochemistry being presented. Dr. Knox spoke on "The Cybernetics of Enzyme Adaptation in Animals," relating to the application of computer

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*McHardy, G., and Balart, L.: Curr. Ther. Res. *4*:153, 1962.

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mathematics to studies of adaptation in enzyme systems.

Dr. Stanley Marcus, professor of microbiology, College of Medicine, University of Utah, lectured on "Facts and Fancies in the Serology of Syphilis" on March 29 in the Medical Sciences Building.

Trips and Talks

Dean Vernon E. Wilson, M.D., of the School of Medicine gave the keynote address at the first general session of the annual meeting, April 23 to 26, of the American College Health Association in Kansas City, Mo., and on the campuses of the University of Kansas in Kansas City, Kan., and at Lawrence, Kan. His topic for the address was "Modern Problems in Ethics."

Drs. Jerry W. Brown, associate professor; James A. Green, associate professor; Daniel E. Overack, assistant professor; and E. W. Lowrance, professor, attended the annual meeting of the American Association of Anatomists April 8 to 11 in Washington, D. C., where they heard papers on current anatomical research and viewed motion pictures and demonstrations on anatomical subjects. The following members of the department presented papers from the platform: Dr. Brown, "The Embryonic Development of the Olfactory Formation in the Bat"; Dr. Green, "Studies on the Fine Structure of the Human Ovary"; Dr. Overack, "Hormone Inhibition by Extracts of Lithospermium Ruderale"; and Dr. Lowrance (with H. B. Latimer), "Weights and Variation of Components of the Human Vertebral Column."

Dr. Thomas D. Luckey, professor and chairman of the department of biochemistry at the Medical Center, gave several talks April 1 and 2 at the Northwest Missouri State Teachers College to faculty members and students. "Germfree Animals," "Gnotophoric Research," "Molecular Basis of Nutrition" and "Origin of Life" were his topics of discussion.

Dr. Frank B. Engley Jr., Ph.D., professor and chairman of the department of microbiology, attended a MEND symposium on "Management of Mass Casualties" at Brooke Army Medical Center, March 24 to 29. In April he presented a talk on "Disinfectants, Bacteri-and Sanitizers" to the 31st Annual Milk and Food Sanitation Conference at the University of Missouri. March 11 to 13, Dr. Engley attended a National Conference on Teaching of Infectious Disease in Medical School at the Communicable Disease Center in Atlanta, Ga., and while there he visited Emory University School of Medicine.

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Herbert S. Goldberg, Ph.D., professor of microbiology, presided over the meeting of the Eastern Missouri Branch of the American Society for Microbiology, March 30. April 10 to 13, Dr. Goldberg visited L.S.U. in Baton Rouge, and Tulane in New Orleans.

At the EMB of the American Society for Microbiology meeting March 30, Dr. James T. Barrett, associate professor of microbiology, coauthored a paper "Prelminary Immunologic Studies with Plant Proteases" with Mr. R. T. Evans.

Dr. Donald P. Durand, assistant professor, and Dr. Richard M. Hyde, instructor in microbiology, attended the 17th annual symposium on Fundamental Cancer Research (Virus, Nucleic Acid and Cancer) at M. D. Anderson Hospital in Houston, February 20 to 22.

Dr. James E. Randall, associate professor of physiology and biophysics, and Mr. Robert N. Stiles, NIH fellow, attended the 7th annual meetings of the Biophysical Society, held in New York February 18 to 21. Mr. Stiles presented "Power Spectral Analysis of Finger Acceleration Tremors."

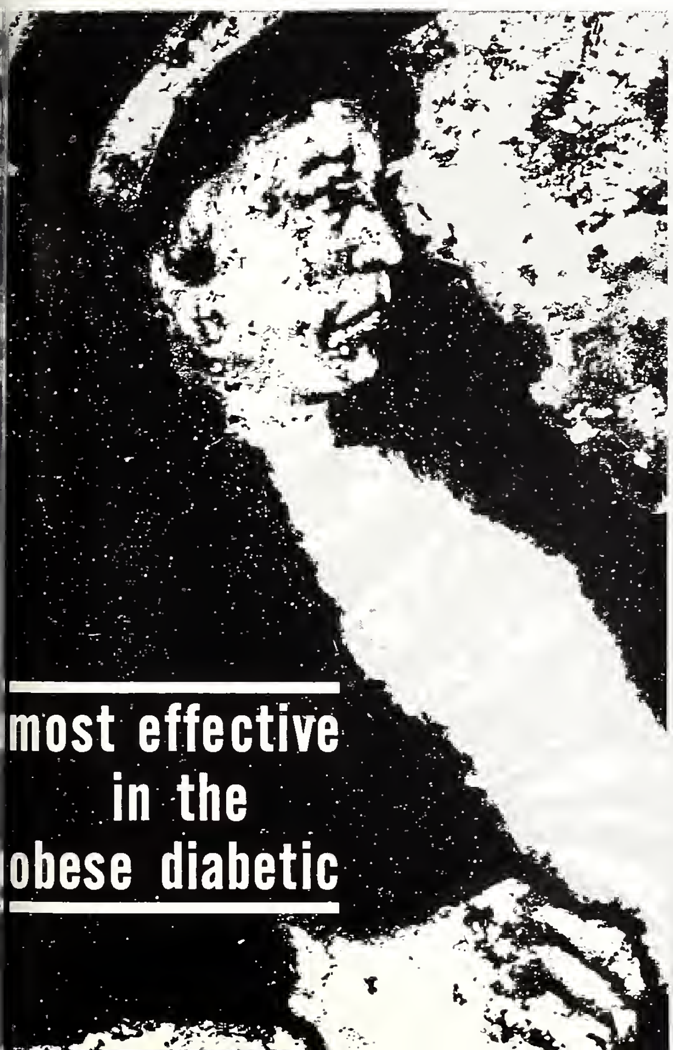
To the Greater Kansas City Mental Health Foundation in Kansas City, February 21, Dr. James M. A. Weiss, professor and chairman of the department of psychiatry, lectured to the professional staff of the Foundation on "The Sudden Murderer" and also provided consultation regarding the educational and research services of the Foundation. On February 22, Dr. Weiss lectured to the professional staff of the department of psychiatry at the University of Kansas School of Medicine on "Thoughts on Suicide: From Socrates to Stengel."

Dr. Jacob O. Sines, associate professor of clinical psychology, discussed bio-mathematics and computer science in the life sciences in interdisciplinary meetings at the University of Texas Postgraduate School of Medicine in Houston, from March 27 to 30.

Dr. Philip J. Marco, assistant professor of psychiatry, talked on the use of psychotropic drugs in general practice for the treatment of disturbed, excited patients and those who are depressed, to the Grand River Medical Society in Chillicothe, Mo., March 14.

Dr. Robert E. Froelich, assistant professor of psychiatry, presented a film on "Anger in Children," and led a discussion of children's emotions, at a meeting of the Benton Columbia School PTA, March 21.

Dr. Froelich, Dr. Rodman P. Kabrick, associate professor of clinical psychology, and Dr. Fernando Tapia, associate professor of child psychiatry,



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Summary: Indicated in stable adult diabetes, sulfonylurea failures and unstable diabetes. Gastrointestinal side effects occurring more often at higher dosage levels abate promptly upon dosage reduction or temporary withdrawal. Occasionally an insulin-dependent patient will show "starvation" ketosis (acetonuria without hyperglycemia) which must be differentiated from "insulin-lack" ketosis, and treated accordingly. Use with caution in severe liver disease. Not recommended without insulin in acute complications (acidosis, coma, infections, gangrene, surgery). Consult product brochure for full information.

Bibliography: 1. Williams, R. H.: Textbook of Endocrinology, Ed. 3, Saunders, Philadelphia, 1962, p. 610. 2. Gordon, E. S.: Metabolism 11:819, 1962. 3. Grodsky, G. M. et al.: Metabolism 12:278, 1963. 4. Sadow, H. S.: Metabolism 12:333, 1963. 5. West, K. M. and Tophoj, E.: Metabolism 10:689, 1961. 6. Yalow, R. S. and Berson, S. A.: Diabetes 9:254, 1960. 7. Weller, C. et al.: Scientific Exhibit, A.M.A., June 1962. 8. Weller, C. et al.: Metabolism 11:1134, 1962. 9. Radding, R. S. et al.: Metabolism 11:404, 1962.

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participated in meetings and workshops as part of the annual meeting of the American Orthopsychiatric Association in Washington, D. C., March 6 to 9.

Mr. William Lovata, psychiatric social worker, discussed normal adolescent behavior and how to get along with adolescents and understand their behavior, at a meeting of a parent-education group at the Benton Columbia, Mo. school, March 7. The theoretical basis of adolescence as a period of transition between childhood and adulthood was also discussed.

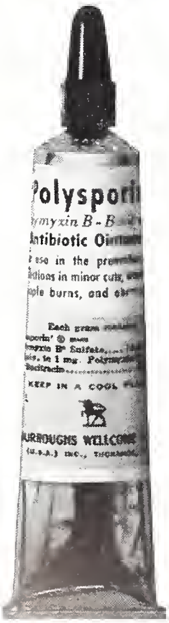
Dr. G. W. Lodwick, professor and chairman of the department of radiology, was guest participant in a course on diagnostic radiology at the University of California in San Francisco, March 13 to 17. His topics of discussion were: "Favorable Prognostic Signs in Lung Cancer," "A Systematic Approach to the Diagnosis of Bone Neoplasms" and "Giant Cell Tumor Re-Explored; Roentgen Differential Diagnosis." On March 20 to 22, Dr. Lodwick also attended the International Symposium on Bone Biodynamics sponsored by the Henry Ford Hospital in Detroit, Mich. March 5, Dr. Lodwick was guest speaker of the Wapello County Medical Society in Ottumwa, Iowa. He discussed the radiological diagnosis of bone tumors and some of the aspects of computer diagnosis.

Dr. John J. Modlin, professor and chairman of the department of surgery, attended the annual meeting of the Missouri State Medical Association in Kansas City, to participate and chair the panel on "Cancer of the Breast," March 25 and 26. On Feb. 21 to 23 Dr. Modlin attended the twentieth annual meeting of the Central Surgical Association in Chicago, Ill.

Dr. Hugh E. Stephenson Jr., professor of surgery, attended the Central Surgical Association meeting also during the same dates. On March 9, he spoke to the Christian Medical Society at the School of Medicine, University of Missouri, on "Is Christianity Dead in Russia?"

Dr. John A. Buesseler, professor and chief of ophthalmology, presented a talk to the Colorado Ophthalmological Society, February 16, in Denver on "Banking and Utilization of Preserved Eye Tissue."

Dr. Samuel P. W. Black, professor of surgery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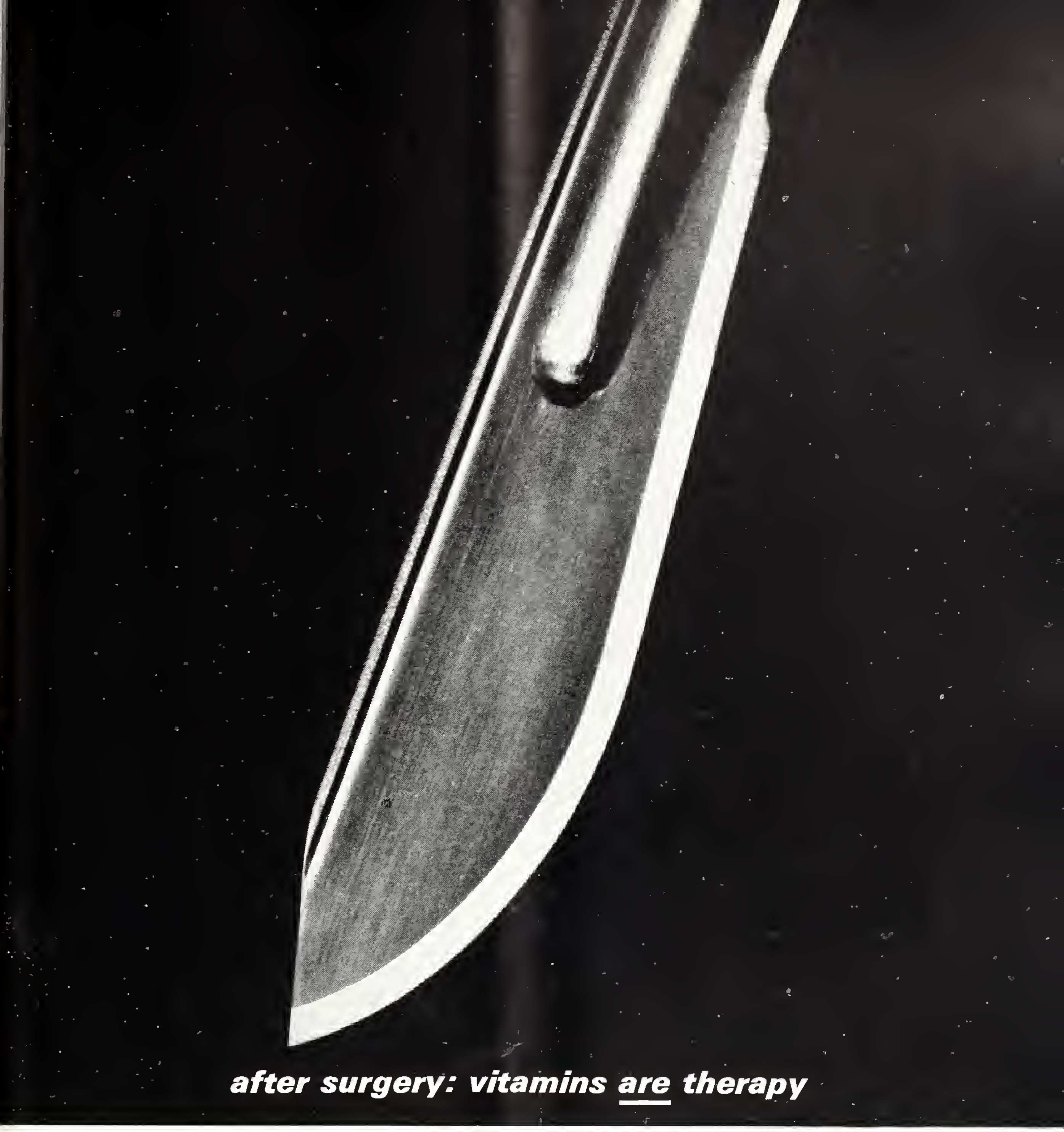

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(neurosurgery), attended the biennial meeting of the Johns Hopkins Medical and Surgical Society in Baltimore, Md., March 1 and 2. On March 5 Dr. Black presented a paper at the neurological study unit of Yale University entitled "Generalized Osteosclerosis Secondary to Metastatic Medulloblastoma of the Cerebellum."

Dr. Ian M. Thompson, professor of surgery (urology), presented a paper entitled "Incontinence After Prostatectomy and Its Management," at a meeting of the American College of Surgeons in Pittsburgh, Pa., March 11 to 16. At the Edgar Burns Memorial Lecture in New Orleans, March 29 and 30, Dr. Thompson served as discussant at a research seminar.

A Missouri University movie of a new technic for urinary diversion, produced by Dr. Thompson and Dr. Gilbert Ross Jr., was presented at a meeting of the Southeastern Section of the American Urological Association, Inc., April 1 to 5 in Nassau.

Dr. Kenneth K. Keown, professor of surgery (anesthesiology), spoke on "Anesthesia for Patients with Heart Disease" at a meeting sponsored by the Iowa State Medical Society in Des Moines, Ia., April 8. Dr. Keown, Dr. Thomas Harkness, assistant professor of anesthesiology, and Dr. Charles Waltemath, resident physician, attended a meeting of the International Anesthesia Research Society in Bal Harbour, Fla., March 24 to 27. Dr. Waltemath presented his results from two years of research determining blood volume in the elderly patient in a paper entitled "Blood Volume Determination in Geriatric Patients."

WASHINGTON UNIVERSITY

Alumni Program

Washington University Medical School's Alumni Day Program will be held Friday, June 7. Dr. Llewellyn Sale Jr., assistant professor of clinical medicine and president of the alumni association, will preside at the business meeting at 9:15 in Clopton Amphitheatre. Dr. Edward H. Reinhard, professor of medicine and president-elect of the association, and Dr. Adolph H. Conrad Jr., instructor in clinical medicine,

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will preside at the scientific sessions beginning at 9:30.

The program includes "Studies on Human Nutrition in Underdeveloped Countries," Brig. Gen. Shelton Brownton, USAF, MC (Ret.); "Progress in Immunization," Dr. Russell Blattner, professor of pediatrics at Baylor University College of Medicine; "Kidney Disease in Children," Dr. Henry L. Barnett, professor of pediatrics, Albert Einstein School of Medicine; "Pseudo-Gout," Dr. William Gaunt, assistant professor of medicine, University of Missouri School of Medicine; "New Royal Road to Man's Unconscious Mind," Dr. Edgar Draper, assistant professor of psychiatry, University of Chicago Medical School; "Studies on Penicillin Sensitivity," Dr. Charles W. Parker, instructor in medicine, Washington University School of Medicine; "Tumors of the Testes," Col. John F. Patton, Chief of Surgery, Walter Reed General Hospital; "Total Cystectomy in the Treatment of Carcinoma of the Bladder," Dr. William T. Bowles, instructor in urology, Washington University School of Medicine; "Recent Developments in Fibrinolysis," Dr. Sol Sherry, professor of medicine, Washington University School of Medicine.

Also on the program is the presentation of the scientific papers of Dr. Joseph Erlanger, professor emeritus of physiology and 1944 Nobel Prize Winner, to the school of medicine.

Physicians may obtain four and one-half hours credit from the American Academy of General Practice by attending the program.

Also scheduled for that weekend is presentation of awards to graduating seniors on Sunday, June 9, at 8:00 p.m. in Olin Hall. Dr. Thomas Brittingham, assistant professor of medicine at the school, will be the speaker. Graduation will be Monday, June 10.

AOA Members Named

Nine students at Washington University School of Medicine were initiated into Alpha Omega Alpha honorary fraternity in May. Speaker for the dinner meeting was Dr. Estelle

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Brodman, librarian and associate professor of medical history.

New initiates are seniors, Stanley J. Birge, Alan L. Goldman, Stanford I. Lamberg and Jerry N. Middleton, St. Louis; Robert S. Hunt, Cape Girardeau, and Charles D. Leonard, Denver. Juniors elected were Donald Eiler, Walkerton, Ind.; James C. Ellsasser, Mishawaka, Ind.; and Ronald G. Evens, Herculaneum, Mo.

Terry Lecture

Dr. A. S. Parkes, of the University of Cambridge, presented the annual Robert J. Terry Lecture in May. He spoke on the effect of smell on mammalian reproduction. The lecture, established by Washington University School of Medicine in 1938, honors Dr. Terry, who headed the department of anatomy there from 1900 until his retirement from teaching in 1941. Now professor emeritus, he is living in Weston, Mass., where he observed his 93rd birthday this year.

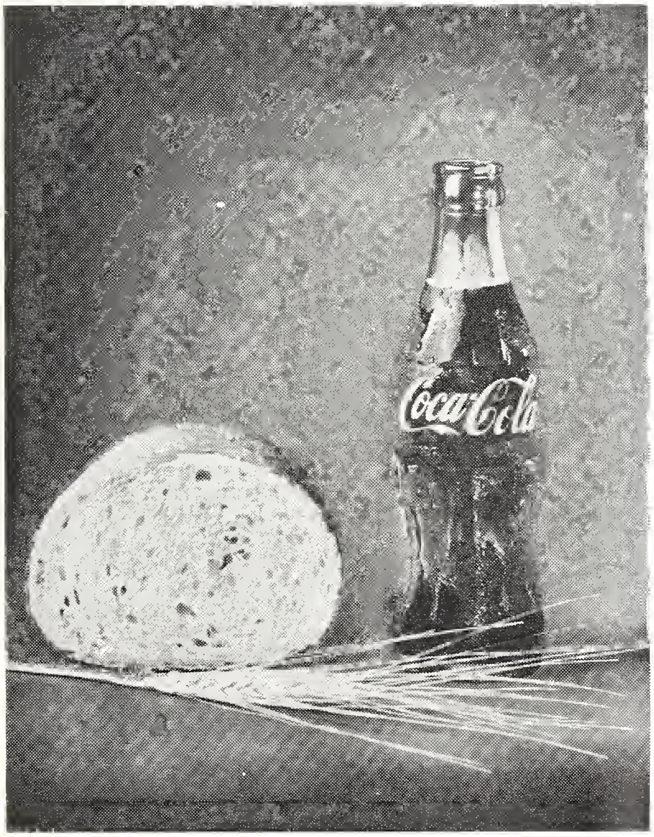
Dr. Parkes, Mary Marshall professor of the physiology of reproduction, has centered his research about problems of fertility. His first investigation centered on studies of the estrous cycle of mammals, using x-irradiation as an instrument of investigation. He has done extensive studies on the physiology of the ovaries and on biological assay of sex hormones. He has also made investigations on fertility control and on freezing and long-term preservation of tissues.

Federation Meeting

Thirty-two papers were presented by the faculty of Washington University School of Medicine at the 47th annual meeting of the Federation of American Societies for Experimental Biology held in Atlantic City in mid April.

Serving as chairman of various sessions were Dr. Paul E. Lacy, Dr. Sarah Luse, Dr. Oliver H. Lowry, Dr. Herman N. Eisen and Dr. F. Edmund Hunter.

Speakers and their papers were: A. Scott, J. Weinstein, Dr. F. Edmund Hunter, "Action of Drugs on Swelling of Isolated Liver Mitochondria"; A. Mikata, Dr. Sarah Luse, "An Electron



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ELLIS FISCHEL STATE CANCER HOSPITAL

The Spring Conference of the Consulting Staff of the Ellis Fischel State Cancer Hospital was held March 31, 1963. Dr. Ned D. Rodes, Mexico, was elected Chief of Staff; Dr. E. J. Schewe Jr., Columbia, Vice Chief of Staff, and Dr. George A. Oliver, Farmington, Secretary. Dr. Vallee L. Willman, St. Louis; Dr. Jack M. Martt, Columbia; Dr. Norman Asel, Columbia; Dr. Frank R. Dexheimer, Columbia; Dr. James K. Ritterbusch, Fulton; Dr. Garth Hemenway, Columbia, and Dr. William Shieber, St. Louis, were approved for membership on the Consulting Staff.

Dr. John S. Spratt, Chief Surgeon, Ellis Fischel State Cancer Hospital, was recently appointed Liaison Fellow from the State of Missouri to the Committee on Cancer of the American College of Surgeons.

Dr. Ercell L. Miller was guest speaker at the Hospital Research Seminar April 3, 1963. He discussed "Regional Block Anesthesia for the Head and Neck."

Dr. George B. Rader, Department of Surgery, Washington University School of Medicine, conducted surgical grand rounds April 4.

On April 13, Dr. E. J. Schewe Jr., Vice Chief of Staff of the Consulting Staff of the Ellis Fischel State Cancer Hospital conducted surgical grand rounds.

Dr. Ercell L. Miller discussed "Prosthetic Dentistry Following Resection of Cancers of the Head and Neck" at the April 17 Research Seminar.

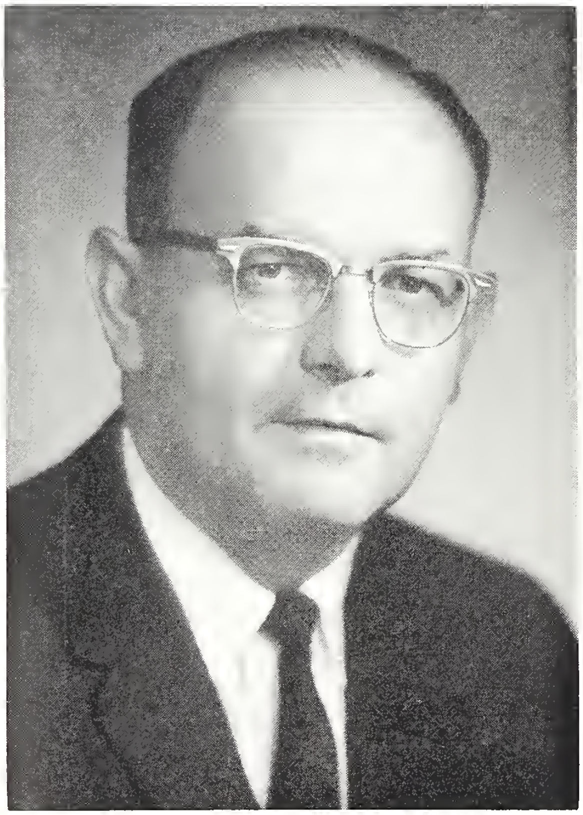
Dr. Jose M. Sala, Chief Radiotherapist, Ellis Fischel State Cancer Hospital, addressed the Ozark Medical Society at Cassville, Missouri, April 4. He spoke on "Treatment of Carcinomas of the Skin." Dr. A. M. Evans, Internist, discussed "Is Cancer a Virus Disease?"

Dr. Jose M. Sala discussed "The Functioning of a Modern Radiotherapy Center" at the Burge Hospital Ladies Auxiliary meeting in Springfield, April 17.

SAINT LOUIS UNIVERSITY

Appointment

Dr. Thomas F. Frawley, professor of medicine and chairman of the Subdepartment of Endocrinology and Metabolism at Albany Medical College of Union University, Albany, New York, has been appointed professor of Internal Medi-



Dr. Thomas F. Frawley

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cine and director of the department at the St. Louis University School of Medicine. His appointment will become effective September 1.

Announcement of the appointment was made at the meeting of the staff of the St. Louis University Hospitals on Monday, April 15, by Dr. G. O. Broun, dean, St. Louis University School of Medicine.

Dr. Frawley earned his A.B. degree at the University of Rochester in 1941 and his M.D. degree at the University of Buffalo School of Medicine in 1944. He interned at St. Mary's Hospital in Rochester, New York, and took his residency training at Buffalo General Hospital, following which he became a member of the faculty of the University of Buffalo School of Medicine.

The following year he joined the faculty of Harvard Medical School as a research fellow in medicine and also was an assistant in medicine at the Peter Brent Brigham Hospital.

Dr. Frawley became a member of the faculty of Albany Medical College as an assistant professor of medicine in 1951, advancing to associate professor in 1952.

From 1955 to 1957 he held a research appointment at the National Institute of Arthritis and Metabolic Diseases at the National Institutes of Health, Bethesda, Md. He returned to Albany Medical College and was appointed professor of medicine in 1959.

He is chief of the Endocrine-Metabolic Clinic at Albany Medical Center Hospital, where he is an attending physician and chairman of the staff. He is consultant in internal medicine at Albany Veterans Administration Hospital and consultant in Endocrinology to the Veterans Administration in Washington, D. C.

Dr. Frawley has published extensively on the actions of the pituitary and suprarenal cortical hormones and their clinical application to the treatment of disturbances in the function of these glands.

Also, he has carried on intensive studies in the field of diabetes and hypoglycemia both in relation to insulin and the agents used in the oral treatment of diabetes.

Dr. Frawley is a Fellow of the New York Academy of Sciences and American College of Physicians, a diplomate of the American Board of Internal Medicine, and holds membership in Sigma Xi, honorary scientific society.

Other society memberships include: American Federation for Clinical Research, American Thyroid Association, American Medical Association, American Rheumatism Association, Endocrine Society, National Board of Medical Examiners and New York State Medical Society.

He was chairman, Subcommittee on Teaching of Diabetes in Hospitals for the American Diabetes Association from 1959-1961, and is a member of their Committee on Postgraduate Instruction. Other medical offices include: former president, Albany Chapter, American Federation for Clinical Research; former chairman, Section of Internal Medicine, Medical Society of the State of New York.

Dr. Frawley will succeed Dr. Rene Wegria who will become director of the department of pharmacology at St. Louis University School of Medicine.

Lecture Tour

Dr. R. Walter Schlesinger, director of the department of microbiology, has been invited to be a visiting professor at the University of California Medical Center in San Francisco from May 13 until May 31. Dr. Schlesinger will give three lectures to medical students and three seminars to graduate students. He will also lecture to the house officers in medicine and pediatrics and will lecture at Stanford University and the University of Washington in Seattle. His lectures will deal with biological and biochemical aspects of virus infection. Dr. Schlesinger will review much of the research on adenoviruses and dengue viruses under investigation at the School of Medicine.

Elections

Dr. Francis X. Paletta, professor of clinical surgery, was elected a member of the examining board of the American Association of Plastic Surgery at a meeting held in St. Louis. He also presented a paper entitled "Current Trends in Cleft Palate Rehabilitation" at a Plastic Research Council held in Galveston, Texas, in April. Dr. Paletta also participated in a meeting of the Society of Head and Neck Surgeons held in Bermuda April 28 to May 1 at which he coauthored a paper entitled "Technique and Chemotherapy Infusion, Head and Neck Surgery."

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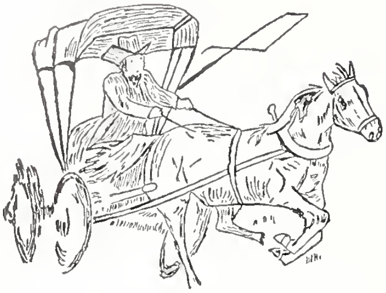


FORTY YEARS AGO

Dr. C. R. Harrington, lecturer in pathological chemistry, University College, London, was the guest of the Department of Biochemistry, Washington University School of Medicine, St. Louis, during May.

Dr. Hanau W. Loeb, of St. Louis, dean of the Medical School of St. Louis University, was elected president of the American Laryngological, Rhinological and Otological Society at the annual meeting of the society held at Atlantic City, May 10.

The State Food and Drug Department has begun a campaign in St. Louis to clean up groceries and markets in certain sections of the city. On April 11, the inspectors of the department condemned and destroyed a wagon load of canned foods taken from one store.

The general education board of the Rockefeller Foundation has appropriated $1,250,000 as a gift to the State of Iowa toward the construction and equipment of new buildings for the medical school of the University of Iowa. The total amount to be expended for this purpose is $4,500,000, the State of Iowa pledging itself to appropriate $2,500,000.

A commission of Japanese medical scientists visited Washington University School of Medicine, St. Louis, April 23 to April 26, under the auspices of the Rockefeller Foundation. All the members of the commission have made valuable contributions to medical science and they occupy positions of eminence in their own country.

TWENTY-FIVE YEARS AGO

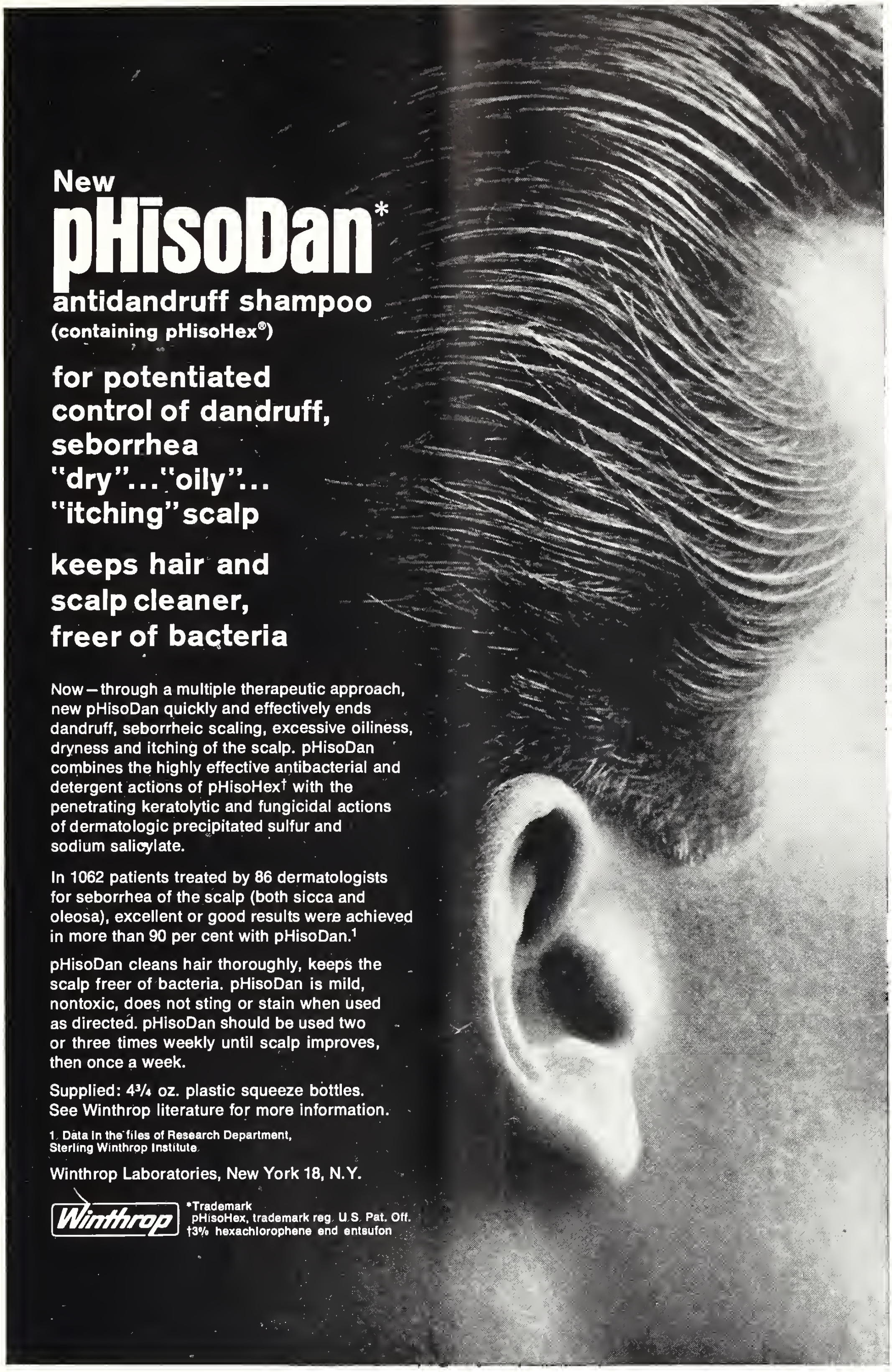
On May 14, tragedy overwhelmed the Association when Dr. Ellis Fischel, St. Louis, was killed in an automobile accident while on his way to Jefferson City. Reports indicate that he crashed into a truck which was crossing the road to pull in at a filling station near the town of Useful, about 35 miles east of Jefferson City. Dr. Fischel was killed instantly and Mrs. Fischel, who was traveling with him, was critically injured. At this time she is recovering in a hospital in St. Louis. The death of Dr. Fischel removes one of the most outstanding surgeons in the country, and particularly a man who had given a large part of his life work to the study of the treatment of cancer.

Dr. R. B. Schutz, Kansas City, received the cash award presented by the Committee on Maternal Welfare for the most appropriate article appearing in The Journal during the year relating to obstetrical care. The title of the article was "Bleeding in Pregnancy."

It is an axiom of the physician that fees must be adjusted to the income of the patient. Maurice Leven in "The Income Structure of the United States" (The Brookings Institute, Washington, D. C.) makes clear how much and how often such reductions must be made. His study embraces, too, the income of physicians. Of 7,436 families living in 1929 in eight representative cities, 88 per cent had an annual income of less than $3,000. For the country as a whole, 92 per cent of the individuals and 79 per cent of the families earned less than this amount in the year of the great bonanza. A few figures which pertain only to physicians follow: The greatest average annual income is achieved in the period between 15 and 20 years after beginning practice. The median in this instance (1928) was about $5,700. The income of the physician earning $5,000 in 1929 had shrunk to less than $3,600 by 1936.

In his annual address, the president of the State Association, Dudley S. Conley, M.D., Columbia, recalled: "Just as we sometimes do in our own lives when we review them, perhaps it would be well to look back briefly over the span of life of our State Medical Association. In 1836 a group of progressive medical men in the City of St. Louis sent out a general invitation to the physicians in the State of Missouri to attend a convention with the purpose of forming a state medical society. About 150 doctors accepted this

(Continued on page 570)



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invitation and the first Medical Society of the State of Missouri was born and incorporated January 25, 1837, eleven years before the formation of the American Medical Association. This society had as its object the improvement of the profession of medicine. Elected as its first president was Dr. Bernard Gaines Farrar, the first American born physician to settle west of the Mississippi. Dr. Farrar, a man of imminent ability and culture, is often called the "father of the profession in Missouri." Equally important was the election of Dr. John B. Johnson as corresponding secretary. "Our Association, according to history, is 101 years old. According to law it is 88 years of age. In either category it is entitled to aid under the Old Age Pension Act."

TEN YEARS AGO

The formation of new hyphenated county medical societies form the following groups of counties: Butler-Ripley-Wayne, Bates-Cass-Cedar-St. Clair-Vernon and Phelps-Crawford-Dent-Pulaski-Maries is expected to be completed soon.

Two new 50 bed county hospitals recently have begun operation. The Lincoln County Memorial Hospital at Troy began receiving patients in April with the Sullivan County Memorial Hospital at Milan doing likewise in May. Thousands of people visited these two splendid institutions during their respective periods of open house. If hospitals are an attraction for physician location these two new models should serve as strong magnets.

Senator A. M. Spradling Jr., Cape Girardeau, Chairman, Senate Committee on Health and Welfare, discussed a number of important health bills introduced in the Missouri General Assembly during the annual session.

COUNTY SOCIETY NEWS

(Continued from page 550)

Medical Society and the doctors' wives was held at the Shepherd of the Hills Cafe in Lebanon on Thursday night, April 25. The evening festivities began with a social hour followed by dinner and then the program. Mr. Wayne Conwell, Professional Management, Inc., St. Louis, spoke on "How to Plan and Build a Retirement Income."

Mr. Conwell's discussion was most interesting and informative and all present were given a number of items to think about.

M. K. Underwood, M.D., *Secretary*

TENTH DISTRICT

W. D. ENGLISH, CARDWELL, COUNCILOR

Mineral Area County Medical Society

J. Eugene Lewis, M.D., St. Louis, spoke before a meeting of the Mineral Area County Medical Society at the State Hospital in Farmington on Thursday night, April 25. His subject was "Surgical Emergencies in the Newborn." Following his interesting formal presentation, Dr. Lewis answered a good number of questions from the audience concerning this subject.

C. W. Chastain, M.D., *Secretary*

BLUE SHIELD PLANS GROW

More than $942,400,000 was paid by the 76 Blue Shield Plans for care rendered to members in 1962, according to an announcement from the Plans' national association. During the same period, the community service medical-surgical plans recorded an enrollment gain of more than 1,782,000 persons.

In Missouri, the St. Louis and Kansas City Blue Shield Plans paid a combined total of $18,648,467 during the year for members' medical-surgical care. Membership in the two Plans increased from 1,076,576 to 1,105,946 persons, a rise of 29,370.

Total membership in Blue Shield Plans operating in the United States, Canada and Jamaica reached 50,904,714 as of Dec. 31, 1962.

"The payment of $942,494,204 to the medical profession represented a record high for a 12 month period, and nearly 89 per cent of the total income of all Blue Shield Plans," the national association stated. At the same time, the Plans utilized only 9 per cent of their total income to cover administrative costs.

The national association said that 14 Blue Shield Plans have enrolled more than 40 per cent of the population in the areas they serve. Among them are the District of Columbia Plan with 85 per cent, the Rhode Island Plan with 70 per cent, the Rochester, New York Plan, with 68 per cent, and the Delaware Plan with almost 60 per cent.

Four Blue Shield Plans recorded significant enrollment gains during 1962. The Massachusetts Blue Shield Plan reported a gain of 345,800 new members; Toronto Blue Shield added 229,600 members; the New Jersey Plan registered a 145,400 gain, and Pennsylvania Blue Shield added 100,000 new members.

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Missouri Medicine

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Minutes of the House of Delegates

One Hundred Fifth Annual Session

March 24, 25, 26, 27, 1963

Kansas City

Sunday Session

The first meeting of the House of Delegates of the 105th Annual Session of the Missouri State Medical Association was called to order at 1:30 p.m., Colonial Ballroom, Hotel Muehlebach, Kansas City, with William C. Mixson, M.D., Kansas City, Speaker, presiding.

Officers, Councilors and Delegates present during the Annual Session follow:

Officers

President	Donald M. Dowell, Chillicothe
President-Elect	Kenneth C. Hollweg, Kansas City
Vice President	C. G. Stauffacher, Sedalia
Vice President	E. L. Spence, Kennett
Secretary	J. I. Matthews, Jefferson City
Treasurer	Charles R. Doyle, St. Louis
Speaker of the House	William C. Mixson, Kansas City
Vice Speaker of the House	Stanley S. Peterson, Springfield

Councilors

1st District	Joseph L. Fisher, St. Joseph
2nd District	A. P. Rowlette, Moberly
3rd District	Leonard T. Furlow, St. Louis
4th District	Paul R. Whitener, St. Louis
5th District	Byron M. Stuart, Boonville
6th District	O. B. Barger, Harrisonville
7th District	H. W. Benoit Jr., Kansas City
8th District	Doyle C. McCraw, Bolivar
9th District	E. A. Stricker, St. James
10th District	W. D. English, Cardwell

DELEGATES

First District

Andrew	Warren C. Baker, Savannah
Buchanan	John N. Martin, St. Joseph
Buchanan	E. E. Wadlow, St. Joseph
Clay	T. E. Edwards, North Kansas City
Clay	T. B. Schertz, North Kansas City
Grand River	
Carroll	John H. Platz, Carrollton
Grundy	C. L. Clark, Trenton
Harrison	Merriam Gearhart, Bethany
Linn	George Gary, Marceline
Livingston	Joseph Conrad, Chillicothe
Nodaway-Holt-Atchison-Gentry-Worth	E. D. Imes, Maryville
Nodaway-Holt-Atchison-Gentry-Worth	Frank Matteson, Grant City

Second District

Chariton-Macon-Monroe-Randolph	F. A. Barnett, Paris
Chariton-Macon-Monroe-Randolph	James E. Campbell, Macon
Chariton-Macon-Monroe-Randolph	A. P. Rowlette, Moberly
Lewis-Clark-Scotland	Landis Y. Davis, Canton
Marion-Ralls-Shelby	B. L. Murphy, Hannibal
North Central	
Adair	M. T. English, Kirksville
Knox	Waldo B. Isom, Knox City

Third District

St. Louis City	Robert B. Bassett, St. Louis
St. Louis City	Edward M. Cannon, St. Louis
St. Louis City	Carl J. Dreyer, St. Louis
St. Louis City	John P. Eberle, St. Louis
St. Louis City	Robert E. Funsch, St. Louis
St. Louis City	W. J. Gillespie, St. Louis
St. Louis City	Walter T. Gunn, St. Louis
St. Louis City	Leo J. Hartnett, St. Louis
St. Louis City	George L. Hawkins Jr., St. Louis
St. Louis City	E. V. Henschel, St. Louis
St. Louis City	David N. Kerr, St. Louis
St. Louis City	E. D. Kinsella, St. Louis
St. Louis City	Louis H. Kohler, St. Louis
St. Louis City	W. M. Lonergan, St. Louis
St. Louis City	J. Otto Lottes, St. Louis

St. Louis City	J. L. Lucido, St. Louis
St. Louis City	J. J. McNamara, St. Louis
St. Louis City	J. M. Macnish, St. Louis
St. Louis City	Paul F. Max, St. Louis
St. Louis City	Donald J. Mehan, St. Louis
St. Louis City	W. F. Melick, St. Louis
St. Louis City	C. S. Sherwin, St. Louis
St. Louis City	Jerome I. Simon, St. Louis
St. Louis City	R. L. Sterkel, St. Louis
St. Louis City	J. Wm. Thompson, St. Louis

Fourth District

Franklin-Gasconade-Warren	L. O. Muench, Washington
Franklin-Gasconade-Warren	Charles A. Schmidt, Gerald
Franklin-Gasconade-Warren	George M. Workman, Herman
Lincoln-St. Charles	E. O. Damron, Elsberry
Lincoln-St. Charles	Gerald A. Yaeger, St. Charles
St. Louis County	William H. Bailey, St. Louis
St. Louis County	Edgar W. Davis, St. Louis
St. Louis County	O. P. Hampton Jr., St. Louis
St. Louis County	Falls B. Hershey, St. Louis
St. Louis County	Louis F. Howe, St. Louis
St. Louis County	Robert A. Mayer, St. Louis
St. Louis County	Paul W. Miles, St. Louis
St. Louis County	M. M. Schwartz, St. Louis
St. Louis County	Richard A. Sutter, St. Louis
St. Louis County	George J. L. Wulff Jr., St. Louis

Fifth District

Audrain	L. E. Epple, Mexico
Boone	H. E. Stephenson Jr., Columbia
Boone	R. P. Ladenson, Columbia
Boone	C. Thorpe Ray, Columbia
Callaway	J. K. Ritterbusch, Fulton
Cole	G. D. Shull, Jefferson City
Cooper	G. W. Winn, Boonville
Howard	William J. Shaw, Fayette
Morgan	R. R. Lyle, Versailles

Sixth District

Henry	W. D. Bradshaw, Clinton
Johnson	C. M. Lederer, Warrensburg
Lafayette-Ray	Catherine Boydston, Odessa
Lafayette-Ray	Charles Riley, Richmond
Pettis	C. G. Stauffacher, Sedalia
Saline	E. L. McCorkle, Marshall
West Central	
Bates	C. A. Lusk Jr., Butler
Cass	E. S. Jones, Harrisonville
Cedar	Robert Magee, El Dorado Springs
St. Clair	Don Giesler, Osceola
Vernon	Rolla B. Wray, Nevada

Seventh District

Jackson	Berneil W. Andrews, Kansas City
Jackson	John F. Bowser, Kansas City
Jackson	Charles S. Cooper, Kansas City
Jackson	Dillard M. Eubank, Kansas City
Jackson	Harold L. Gainey, Kansas City
Jackson	John A. Griffith Jr., Kansas City
Jackson	W. M. Kitchen, Kansas City
Jackson	James R. McVay Jr., Kansas City
Jackson	Gerald L. Miller, Kansas City
Jackson	William C. Mixson, Kansas City
Jackson	Ralph Perry, Kansas City
Jackson	Carl M. Peterson, Kansas City
Jackson	Russell D. Shelden, Kansas City
Jackson	W. J. Stelmach, Kansas City
Jackson	R. W. Stockton, Kansas City
Jackson	Charles B. Wheeler Jr., Kansas City

Eighth District

Dallas-Hickory-Polk	O. A. Griffin, Buffalo
Dallas-Hickory-Polk	Ben H. Koon, Bolivar
Greene	Kenneth E. Knabb, Springfield
Greene	Stanley S. Peterson, Springfield
Greene	Edwin M. Powell, Springfield
Greene	William H. Snead Jr., Springfield
Jasper	Gregory A. Schulte, Joplin
Jasper	M. Foster Whitten, Carthage
Ozarks	
Barry	William J. Glass, Monett
Christian	Stanley D. Roper, Ozark
Lawrence	Kenneth Glover, Mount Vernon
Newton	M. C. Bowman, Neosho
Stone	Fred Wommack, Crane
Webster	T. M. Macdonnell, Marshfield

Ninth District

Mid-Missouri	
Dent	B. J. Bass, Salem
Phelps	M. K. Underwood, Rolla
South Central	
Howell	M. L. Fowler, West Plains
Oregon	C. W. Cooper, Thayer
Texas	Joe Wall, Houston

Tenth District

Butler-Wayne-Ripley	Fred J. Biggs Jr., Poplar Bluff
Cape Girardeau	Thomas G. Otto, Cape Girardeau
Dunklin	J. A. Zimmerman, Kennett
Mineral Area	
Iron	Ben M. Bull, Ironton
St. Francois	C. E. Carleton, Farmington
Pemiscot	O. W. Cook, Caruthersville
Perry	Theodore Fischer, Altenberg
Semo	Max A. Heeb, Sikeston

The President, Donald M. Dowell, M.D., Chillicothe, gave the invocation.

B. W. Andrews, M.D., Kansas City, gave a preliminary report of the Committee on Credentials. The Speaker announced that the roll call would be marked from the delegates' credential cards.

Hector W. Benoit Jr., M.D., Kansas City, reported briefly for the General Committee on Arrangements.

SPEAKER: The next order of business is the reading of the minutes of the previous meeting. These have been published in the July 1962 issue of MISSOURI MEDICINE and unless there is objection they will stand approved as published. There being no objection, the minutes were declared approved.

The Speaker gave instructions to the delegates and appointed the following Reference Committees:

REFERENCE COMMITTEE ON AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

C. G. Stauffacher, M.D., Sedalia, Chairman.
Theodore F. Edwards, M.D., N. Kansas City.
R. R. Lyle, M.D., Versailles.
James E. Campbell, M.D., Macon.
M. K. Underwood, M.D., Rolla.

REFERENCE COMMITTEE ON MISCELLANEOUS AFFAIRS

Kenneth Glover, M.D., Nevada, Chairman.
Charles S. Cooper, M.D., Kansas City.
James M. Macnish, M.D., St. Louis.
Joseph A. Conrad, M.D., Chillicothe.
James K. Ritterbusch, M.D., Fulton.

REFERENCE COMMITTEE ON REPORTS OF OFFICERS

John A. Griffith, M.D., Kansas City, Chairman.
William F. Melick, M.D., St. Louis.
M. L. Fowler, M.D., West Plains.
Kenneth E. Knabb, M.D., Springfield.
Joseph A. Zimmerman, M.D., Kennett.

REFERENCE COMMITTEE ON RESOLUTIONS

T. M. Macdonnell, M.D., Marshfield, Chairman.
Melvin M. Schwartz, M.D., St. Louis.
Edward S. Jones, M.D., Harrisonville.
O. W. Cook, M.D., Caruthersville.
E. D. Imes, M.D., Maryville.

REFERENCE COMMITTEE ON MEDICAL EDUCATION AND PUBLIC WELFARE

Edward Kinsella, M.D., St. Louis, Chairman.
W. J. Stelmach, M.D., Kansas City.
Roland P. Ladenson, M.D., Columbia.
E. E. Wadlow, M.D., St. Joseph.
W. H. Snead Jr., M.D., Springfield.

REFERENCE COMMITTEE ON NECROLOGY

William H. Bailey, M.D., St. Louis, Chairman.
James R. McVay Jr., M.D., Kansas City.
David N. Kerr, M.D., St. Louis.
Charles M. Lederer, M.D., Warrensburg.
H. E. Stephenson Jr., M.D., Columbia.

Donald M. Dowell, M.D., Chillicothe, presented the President's Message.

PRESIDENT'S MESSAGE

Mr. Speaker, Members of the House of Delegates:

Just as surely as spring follows winter, it is almost equally sure that at the Annual Session of the Missouri State Medical Association the retiring president will comment on his year in office and speculate on the future of the medical profession. I will not break with tradition but, I assure you, my remarks will be brief.

As I look back over the year—one of the most pleasant of my life—I realize the magnitude of the responsibility that was entrusted to me, and I try to measure my presidential activities to determine if I have approached the energetic and capable performances of the outstanding men who preceded me. I do not know if I will ever be able to satisfy myself on this point. It is best, probably, just to be philosophical and say: "Hats off to the past; coats off to the future."

Whatever measure of success I may have had during the last 12 months, however, is due to a large group of persons who worked untiringly, giving their full cooperation and help in any set of circumstances they found themselves.

I wish to express my deepest personal thanks to Tom O'Brien, Ray McIntyre, Helen Penn, Tom Fox and the other people in MSMA's St. Louis office. I know they worked hard because I have been in a position to observe the quantity and quality of their work.

My thanks go also to Lemoine Skinner and his associates, Jordan Singleton, Gene Lunn, Vincent Sanders and Peggy Heilig, for the effective job they did in helping directly with the execution of nearly every phase of the Association's program.

Our Association owes much to all these devoted, dedicated staff people. Without them we could do little to further the aims of organized medicine.

Finally, if any harvest was reaped during my term of office, it is due, for the most part, to the cooperation and assistance of the Councilors, the committee members and the committee chairmen.

I will soon step down as President, but I will do so knowing the destiny of the Association is in capable hands. I am confident that Ken Hollweg will be one of the finest presidents we have ever had. I pledge to him —and here I think I can speak for all of you—complete cooperation and assistance in all his efforts in the office he is about to assume.

It is most difficult—and certainly somewhat embarrassing—for anyone about to relinquish an office as important as the presidency of MSMA, to attempt to assess or evaluate the plans and programs initiated or completed during his term of office.

Some projects completed this year were begun during the term of my distinguished predecessor or that of a president before him. Some programs initiated during the last year will not come to fruition until next year or, perhaps, the year after.

Because of these factors and because time does not permit, I will not attempt to discuss with you at length the accomplishments of our Association during the last year. Nor shall I comment in detail on plans for the coming year. Dr. Hollweg, I am sure, will have something to say about these matters a little later. I would, however, like to compliment all on the progress of the Missouri State Medical Foundation and the effectiveness of physician support of the MMPAC. To the Council and its staff I would like to pay a special compliment for the way they handled and resolved not only the important matters, but also the numerous day-to-day problems which came before it.

Dr. Dowell, President (left) and Dr. Stauffacher, Vice President (right) watch Dr. Campbell register.

If I may, however, I would like to speak briefly on a few matters because I think they are of extreme importance to me, as your President, and to all of us as physicians and members of MSMA.

The work of the local medical society is the grass roots work of the Missouri State Medical Association. When they engage in this type of effort they learn what the people are really thinking; what their problems are; what they think of their legislators and the manner in which they look after the affairs of their constituents.

We have to keep working at the job of bringing MSMA closer to the doctor. I know we shall do this. Our ways of doing it are improving every year—there are more communications, more meetings, more day-in-day-out efforts to keep the channels of understanding open. The closer the Association gets to its members, the greater chance it has to achieve the goals set for it.

Next, I would like to say a few words about the King-Anderson Bill to provide Social Security-paid hospital benefits for the elderly. Last year the administration's Medicare program never got out of the House Ways and Means Committee.

The dragon was not slain, however. It's back with us again. This time, I understand, this bit of legislation will not be referred to as the Medicare bill but, rather, as the Hospital Insurance Act.

No matter what name they give this type of legislation, the result will be the same—the extension of benefits and beneficiaries under Social Security until the entire field of medicine will be under the domination of the federal government.

The new version of the Social Security-paid hospital benefits plan was announced February 21 as part of President Kennedy's 36 point, $10 billion program of aid to the aged. On that same day, Representative Cecil King introduced the bill in the House, while Clinton Anderson brought it to the Senate. The measure contains some changes from the 1962 version but it is basically the same. In my opinion, the new proposal, like the previous one, is a dangerous long first step to placing medicine in the hands of the politicians.

During the last month news stories, editorials and comments of some of the nation's leading columnists would have us believe that action, if any, on the Social Security financed health benefits plan would not take place until late this year.

I read all this material with tongue in cheek, thinking, perhaps, this information was deliberately given out to lull us into complacency. But we cannot afford to be complacent. We are in a relentless struggle with an adversary who knows every device in the book and a few that are not in the book. If we give an inch our opponent takes a mile. If he ever gets a foot in the door we might just as well open it wide because our resistance will be futile.

Complacency is a word we should forget. We should tear it from our dictionaries. Now is the time for the medical profession once more to meet the King-Anderson legislation with a united front! Now is the time for us to enlist all the support we can against this proposed health plan which will inevitably lead to a system of federal medicine.

At a joint meeting of the Committees on Aging, Public Service and Medical Economics in St. Louis on February 24, a program of opposition to King-Anderson type of legislation was approved unanimously. Drafted by the Public Service Committee, this program is one in which each of us, as a member of MSMA, can actively participate and accomplish a tremendous amount of good. Details of this program will, I am sure, be explained by Dr. Hollweg. I do, at this time, however, urge every physician to get behind the program.

Whole-hearted support for and active participation in this program by each society in our state Association would indicate to law-makers, in no uncertain terms, that Missouri physicians and thousands of other thinking citizens are opposed to the King-Anderson Bill or any other type of legislation intended to bind the medical profession in unbreakable federal chains.

Think of the cumulative effect this anti-King-Anderson program would have on Congressmen and Senators in Washington if every medical association or organization in each of our 50 states were to adopt a similar program and work energetically to make it an outstanding success.

Now, in his aged care message, the President acknowledged that the Kerr-Mills law has a role to play in the health problems of the elderly. He argued, however, that it covers "only a small percentage of those aged who need medical care" because Kerr-Mills' Medical Aid Assistance has been enacted in just 25 states.

Actually, 28 states and three territories have enacted MAA legislation and 35 states, three territories and the District of Columbia have improved or enlarged Old Age Assistance plans under Kerr-Mills. And we are certain that, given the opportunity, the Kerr-Mills programs will do the job of providing help where help is needed.

Relative to the Kerr-Mills law, our Association's position was made perfectly clear when Dr. G. W. Winn of Boonville, as chairman of our Committee on Medical Economics, and Dr. Stanley Peterson of Springfield, as chairman of the Committee on Aging, appeared on April 17, 1962, before the Special Interim Committee of the Missouri Legislature to Study Health Care of the Aged.

Drs. Winn and Peterson told the Interim Committee that the Missouri State Medical Association favors full implementation of the Kerr-Mills program as the basic answer to the problem of financing health care for the elderly.

You will find the complete report in the Association's small booklet containing reports of officers and committees. Briefly, however, these were our recommendations to the Legislature.

1. Broaden hospitalization benefits beyond "life endangering situations."
2. Extend hospitalization benefits from the present 14 days a year to at least 21 days.
3. Increase the inadequate present $100 monthly payments to persons over 65 who are completely bedfast and totally disabled.
4. Liberalize provisions relating to the totally disabled to include persons "substantially bedfast and unable to care adequately for themselves."

I am happy to say the Interim Committee did incorporate these recommendations in its report, and these provisions, along with other improvements in Missouri's Kerr-Mills programs are included in bills now pending in the General Assembly. Our job is to obtain favorable action on those bills.

At this point, I refer again to the joint meeting of the Committees on Aging, Public Service and Medical Economics held on February 24. These committees unanimously approved another program drafted by the Public Service Committee which would provide ideas and materials for physicians to employ in support of these bills. Dr. Hollweg, I know, intends to discuss this program in a few moments.

I am convinced that the real problem for us, the physicians, in the great national debate on health care, is to satisfy the people that we are formulating a practicable, dependable way for people to budget sensibly to pay for their own health care on a voluntary basis, without any pretext for government interference.

In Missouri, we have taken a giant stride with the Kansas City and St. Louis Blue Shield "Over-65" medical-surgical programs. These programs closely follow the plan developed in outline by the American Medical Association and the National Blue Shield Plans and were approved in principle by this House last year.

I think the State's Blue Shield plans, our Association and the physicians are to be congratulated on the implementation and support of these programs. It is a public demonstration that the medical profession is determined to—and can—do something effective about the financing of health care for our Senior Citizens. It is a demonstration that cannot be ignored or downgraded by those who seek to fool the public into believing that the only answers come from the federal government.

I also wish to express myself in praise for the University of Missouri School of Medicine for their aid in providing a speakers bureau for the benefit of our outstate medical societies.

I would like also to leave my successor with a project that I think merits consideration. This is a program each year in which the presidents and secretaries of local medical societies would meet with MSMA officers and staff for a discussion of the mechanics of organizational activities—such as political aspects, socialized medicine, postgraduate education and medical economics—which are to be passed on to the old and new members alike in their respective organizations.

I realize, of course, that such a conference would entail a great deal of work in organization, planning and presentation, and likely mean a significant item of expense for the Association, but I feel it would be worth the effort and cost.

I wish time would permit me to say a few words about some of our other programs and the activities of the various committees. I can tell you, however, all programs are moving forward and that full reports to you are contained in the pamphlet of reports of officers and committees and your Delegates' Handbook.

Gentlemen, I said in my talk to you a year ago I was never more conscious of the magnitude of the responsibility of this office than I was at that moment. Now, at the end of my term, even more than at the beginning, I am aware of the signal honor you conferred on me by making me President of the Missouri State Medical Association. It is a great organization. I am confident its officers and members will continue to do everything they can to make it a better and stronger Association in the service of the public and the medical profession. Thank you.

The Speaker referred the President's Message to the Reference Committee on Reports of Officers.

Kenneth C. Hollweg, M.D., Kansas City, presented the Recommendations of the President-Elect.

RECOMMENDATIONS OF THE PRESIDENT-ELECT

Mr. Speaker, Members of the House of Delegates:

In the course of the coming year, it is my plan to travel about the state and do my best to tell the MSMA story. Therefore, on this inaugural occasion, I intend to be brief.

I believe that one of the biggest responsibilities of every Missouri doctor today is to take an interested, informed and active part in the work of MSMA and its constituent local societies. I believe our basic goal for the coming year should be to draw more and more physicians into a responsible working relationship with the central structure of organized medicine in our state.

Each of us, I know, has a particular and direct interest in one or more important medical groups outside this central structure. We are all naturally concerned with meetings and organizations keyed to our special practice interests, our geographical locations, our particular scientific curiosities and our individual goals.

But each of us has a prior duty to be an active citizen of the republic of medicine in its central core organization, with its unified structure beginning in the local county, extending to the state and reaching on to the national body of the AMA.

Conscious of the honor and responsibility you have given me, I shall do my best in the coming year to work for a stronger structure of medical organization in Missouri—with particular concern for the coordination of our efforts locally and statewide—in order to increase the force of our influence on political and social developments that are going to shape, for good or bad, the future of our practice and of our profession.

Dr. Mixson presided at the House of Delegates.

There is something about the wide-open possibilities of the future that at once encourages our optimism, electrifies our anxieties and stirs us up to continue the fight. We keep looking ahead—whether with expectation or apprehension—and this is all to the good.

At the same time, I believe that far too many doctors in Missouri are unaware of, and even indifferent to, the long past record of effort, devotion and accomplishment that MSMA has built in their interest, and in the public interest, now for more than a century. We are the inheritors of a great tradition in medical organization. I think we ought to be prouder of it.

None of the makers of that tradition has a greater right to our recognition than do our leaders of recent years who have worked against difficulties—and, indeed, sometimes against the indifference of many of their colleagues—to make medicine in Missouri an ever greater force in the public life of our state. I, for one, am proud of what has been done. And I want today particularly to commend Don Dowell, my predecessor, whose work I hope to extend, counting, as I know I can, on the officers, Council, committee members, staff and local societies to continue to carry the burden.

In a short space of time, as time is measured in terms of social change, we have seen MSMA and its constituent societies achieve the establishment of new state standards for physician licensure, foster the training of more doctors to serve the entire state, resist the encroachment of remaining cultist groups, speak with an effective voice in the political life of Missouri, participate in every development looking toward better medicine and better patient care, mobilize our own organization into an ever-more efficient force for progress, foster effective voluntary programs for the necessary care of the aged and indigent and encourage scientific advances in every field.

I could go on. But I believe the record is clear. We have a strong and successful state medical association. Many of you here today can take satisfaction in the individual parts you have played in building it. The growing interest in and attendance at these annual sessions is direct evidence of the trend to greater strength that I believe is everywhere apparent. And I should like to give our Secretary, Jack Matthews, a special word of commendation on this account. The scientific quality of our recent sessions well exemplifies the growing vitality and energy of MSMA today. We should continue to strive to maintain and upgrade our educational programs whether they originate from this society or clinical groups or specialty groups.

Our first job for the coming year will be, I think, to further draw into Association activities all the vigor, intelligence, imagination and effort that the individual members of the medical profession of the state can supply.

The next job, of course—and the one our success will be chiefly measured by—will be to carry out specific action programs that we must make succeed or that—at the very least—we cannot allow to fail.

As practical men with a mature knowledge of the way the world goes, I think we are all bound to recognize that the year ahead will not see the final solution of our problems and that our achievements, whatever they are, will seem modest beside the magnitude of the issues that confront us now and the new ones that are certain to emerge.

And now quickly to the specific targets we shall be aiming at during the year ahead. You will recognize that some of the points I shall now touch on briefly relate to settled MSMA policies adopted by this House of Delegates. Others are recommendations and observations of my own. These latter I present simply for your consideration and reference during your deliberations at this Annual Session.

The over-riding issue that concerns us today is the issue of health care for the aged and how it is to be financed. In this connection we have two jobs to do. The first is to mobilize the most massive and effective effort possible in Missouri to support the national resistance to enactment of any federal legislation of the King-Anderson or Social Security type, including so-called "insurance under Social Security," no matter how it may be labeled or by what round-about backdoor route it may be initiated. Our second job is to take an even more aggressive lead in demonstrating that legitimate health needs of older people can and will be fully provided for by voluntary means at the state and local level.

As Don Dowell has noted, our Committee on Public Service, with the guidance and help of our committees on Aging and Medical Economics, has drafted detailed plans of action to support legislation for the fuller implementation of Kerr-Mills in Missouri and for the defeat of the new King-Anderson proposals in Washington. There is nothing magical about these blueprints for action. They will not perform any miracles. Their success will depend on the hard work of all of us and on our ability to enlist the understanding of our legislators, state and national, as well as on our ability to rally the support of all our fellow Missourians who share our view that the voluntary approach is the only right approach for free citizens of a free country.

The importance of the action blueprints developed by our Committee on Public Service is simply this. We are ready now with flexible plans to move without delay and to adopt the timing and the tactics that circumstances and state and national considerations of policy may require. As soon as the revenue picture of Missouri is clarified and as soon as we can determine the level of Kerr-Mills expense we can realistically advocate, we are ready to go on the state front. We are also ready to swing into action for an intense and timely campaign to mobilize opinion against King-Anderson on whatever timetable national strategy dictates.

At this time, each of us needs to hold himself in readiness to work immediately, when the signal is given, to do his part of the specific tasks that have been defined for all local societies and for MSMA as a whole. The tasks will be spelled out in detail in communications from the MSMA office under the guidance of the Committee on Public Service and the Council.

Though it often seems as though our most pressing and most dramatic problems were on the legislative front, the fact is that our local and state efforts to strengthen and improve voluntary health care service for the public are probably in the long run even more important to the preservation of the values we believe in. In this connection, I think we may all take satisfaction in the progress Blue Cross and Blue Shield have made in the last year to provide specially designed benefits for the over-65 age group.

I believe further that we are really just at the beginning of the need to solve the growing problem of the aged, which is by no means simply a health care problem. But since our opponents in the social and political arenas seem to have succeeded in making the care of the aged in some way a special challenge to medicine, I think we must continue to take up the challenge and think in the widest possible terms—terms including retirement housing, adequate nursing homes, re-examination of employment policies in the community, provision of creative recreational facilities, indeed, the whole range of concerns set out in the recent report of the AMA trustees on the subject.

There is an essential need for medical leadership in this whole great movement of social change. Very specifically, I think the state of things at present requires that medical men on Blue Cross boards, in particular, take an increasing part in the planning and deliberations of these boards and in the definition of Blue Cross programs for the elderly.

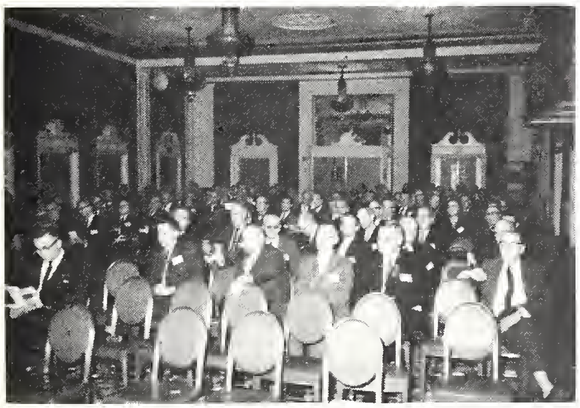
In the whole area of leadership in vountary action, I should like to express the earnest hope that our newly and strongly constituted Committee on Public Service will continue to consider every possibility for state and local medical society initiatives to strengthen and broaden the effectiveness of our own and of related services to the public.

Turning once more briefly to legislative goals, I want to express the strong personal view that we should never lose sight of the need to stop the continuing licensure of cultists in Missouri, the need for all of us to assist as we can the Board of Registration for the Healing Arts in its efforts to maintain the integrity of licensing procedure and to enforce the practice statute, the need to obtain for Missouri the benefits of a medical examiners law, the need to examine carefully any further attempts by paramedical groups to seek state licensure and many other needs.

What I am saying is simply that, though we have come a long way, we have still a long way to go in winning for medicine the place of effective influence we ought to have to bring the public standards for health care in our state to the level that Twentieth Century scientific knowledge dictates.

I want now to close on the note with which I started. Permit me to quote the late Dr. Ira H. Lockwood of Kansas City in his presidential address before the Kansas City Southwest Clinical Society on October 4, 1937, as reprinted some months ago in the *Jackson County Medical Society Weekly Bulletin,* "Unless adequate medical leadership is brought about by the average man in the profession, we may lose many of the rarest values evolved by the older practitioners in the art of the practice of medicine, and it may happen that a vast high-powered medical machine, under the sponsorship of . . . government, will enter the field. . . ."

In the 26 years since Dr. Lockwood spoke, the dangers have become more and more apparent. But it has also become apparent that medical leadership can be adequate to meet the challenge. Our job now is to carry through for one more year. Each of us must ask himself if he is truly doing what Dr. Lockwood so wisely foresaw would be required from "the average man in the profession"—that is to say, from you and from me.


Scientific sessions were well attended.

The Speaker referred the Recommendations of the President-Elect to the Reference Committee on Reports of Officers.

Mrs. Martyn Schattyn, St. Louis, President of the Woman's Auxiliary, presented the following report to the House of Delegates.

REPORT OF THE WOMAN'S AUXILIARY

Mr. Speaker, Dr. Dowell, Officers and Members of the House of Delegates:

It is a great honor and a privilege to stand before you today to give an account of the activities of your Woman's Auxiliary during the last year. Each year the presidency changes hands, but because of the close relationship of the president and the president-elect, and the intense briefing and training sessions which we undergo each October at the National Fall Conference of State Presidents in Chicago, continuity of program is achieved.

To date our membership is 1,821, a fraction of what it really could be if only each member of the Medical Association would realize the significance and strength an Auxiliary can achieve. Your own American Medical Association has credited the auxiliaries of all 50 states with the great ground-swell of interest in politics shown during these last years by doctors the country over. Everyone of us has a personal stake in the growth and stability of our communities, and should have a voice in their destinies.

Because of the heavy demands of your profession, it becomes the privilege and most pleasant duty of your Auxiliary to act as a public relations organization—to bring to the public your thinking and to present educational programs which will emphasize the concern of all doctors for preventive measures in public health.

Our Community Service projects this year included stressing Youth Fitness Examinations as our working program, and "Medical Quackery" as our educational one. Health Careers Recruitment continues to be one of our priorities. We attempt to assist young people intelligently to select careers in the health fields, and we dispense information to high school councilors to use when advising students.

In Civil Defense it is heartening to find that the members of several small Auxiliaries have used the Medical Self-Help Kits to teach survival technics to hundreds of their neighbors and townspeople. Basically this program is one of preparedness for any kind of disaster, natural or man-made.

Our Safety Program emphasizes home, highway and water safety, and our component auxiliaries worked closely with local organizations during Poison Control Week and on accident prevention seminars. One of our smallest groups succeeded in publishing safety articles in its local newspapers and in having similar material broadcast on its local radio stations each month. All of us are becoming more and more seat-belt-conscious. During my travels about Missouri to visit with 23 of our 29 organized Auxiliaries, whenever I was met at the railroad station and returned there for the homeward journey, I never was driven in a doctor's car which did not have seat belts. This is an excellent indication of a trend.

Our Senior Citizen's Service Committee, formed to combat the distorted image which the Administration tried to give of the doctors during the heated debate on Medicare, is beginning to promote greater understanding between the physician and his elderly patients.

Mental illness has long been recognized as one of our nation's great health problems, and nothing less than action on the part of all citizens is necessary to cope with it. The Missouri Division of Mental Diseases, under its director, Dr. George A. Ulett, is proposing that our state set up three intensive early treatment centers as a basic beginning for an all-out assault on this problem here in Missouri, and urges that the necessary appropriations be passed to make these centers a reality. The State Auxiliary Board approved Dr. Ulett's plan "in principle" last October and will go on record at this Convention with full approval. Just 12 days ago I appeared before the House Ways and Means Committee in Jefferson City and represented the Auxiliary in behalf of Senate Bills 56 and 57. We fully realize that adequate financing will be needed, but firmly believe that, because of the possibilities of the greater efficiency of such treatment centers, more citizens will be cured and will again assume places of economic responsibility. Before many years have elapsed such a set-up will certainly prove its economic and social value.

The American Medical Education and Research Foundation offers us now a broader field in which to work. Where formerly, as the AMEF, it sought funds just to assist medical schools, it is now concerned also with loans to medical students, interns and residents, for which it has set up a loan guarantee fund. For every one dollar contributed, 12 and one half dollars in loans are made available. This last year 23 of our 29 Auxiliaries contributed a total of $4,296.42 to the AMA-ERF, of which $648.50 was earmarked for the guarantee fund. Thus our $648.50 made immediately available for loans the sum of $7,782.25. As of December 31, 1962, 197 loans totalling $282,500.00 have been made to students, interns and residents studying in Missouri medical schools. Only eight states have more borrowers than Missouri.

Since 1951 your Auxiliary has had a Medical Student Loan Fund which has assisted to date 14 students, some receiving more than one loan. Money out on loan at present is $8,600.00. Money in our bank fund is $2,532.75. This totals $11,132.75. Our pioneering efforts in this field were small but rewarding. However, after a year of study of the AMA-ERF, of your own Missouri State Medical Foundation, and of our Medical Student Loan Fund, our special committee will present a report for the action of our Convention at this session. Our own efforts now seem small and insignificant in the light of these recent developments on the state and national levels, and it is felt that we should seriously consider putting our funds to greater and more efficient use than is now possible with our revolving committee. I cannot tell you the final disposition of our funds at this time—or even if the Convention will vote to discontinue our own Loan Fund—but we feel sure that a fair and impartial appraisal of all phases of this question was made and that our members will act according to the best interests of the medical profession.

As far as legislation is concerned, the path of organized medicine has been a rugged one this last year, and the future looks just as rugged. The time is not now to be smug about the qualified victory won over the King-Anderson Bill, but rather to concern ourselves with combatting future undesirable legislation and to stand united against the inroads of socialism. One subject upon which I have expounded all year is that of the doctor and his wife assuming community responsibilities. In late December the *AMA News* carried an editorial telling of a group of three physicians and three dentists in Oklahoma City who had taken an active part in a campaign to pass nine bond issues totalling 47 million dollars. These issues were for traffic lights, streets and other civic improvements. Not one directly involved medicine. But these men gained in stature and their professions did likewise because they showed their interest in the "total" lives of their fellow citizens.

To make this year as full and as complete as it has been, I have many to thank. It has been a pleasure to work with your State Office—with Mr. O'Brien, Mr. McIntyre, Mr. Fox, Miss Penn and the others. Dr. Dowell, your esteemed President, has accorded us every courtesy, being one of the speakers at our Fall Conference. Your generosity makes possible our very readable *Quarterly Bulletin* which ranks quite high among those published by other states. It has been a pleasure to write as a contributing editor to MISSOURI MEDICINE, and we are ever grateful for the inclusion in your July Roster Number our own Roster of Auxiliary members.

I wish to sincerely thank Dr. Dowell and the officers of the Missouri State Medical Association, and my four other Advisory Councilors for this year, Dr. Arthur W. Neilson, Dr. Maurice A. Diehr, Dr. Durward G. Hall and Dr. Frederick E. Wade.

Above all, we thank you for the guidance and inspiration you always give us. We wish you a most successful Convention, and only hope we can continue to serve you well as your Auxiliary.

The Speaker referred this report to the Reference Committee on Reports of Officers.

The report of the Secretary, John I. Matthews, M.D., Jefferson City, follows:

REPORT OF THE SECRETARY

On December 31, 1962, the official membership of the Association was as follows:

STATUS OF MEMBERSHIP

Number of Members, January 1, 1962	3,815
New Members	158
Members Reinstated	8
Total	3,981
Members Dropped	21
Members Deceased	76
Members Transferred	50
Members Resigned	7
Total	3,827
Number of Members, December 31, 1962	3,827

The Committee on Nominations, which is appointed by the President from the House of Delegates, must submit nominations for the following offices:

Three Vice Presidents to fill the expired terms of C. G. Stauffacher, M.D., Sedalia; Forrest C. Long, M.D., Savannah, and E. L. Spence, M.D., Kennett.

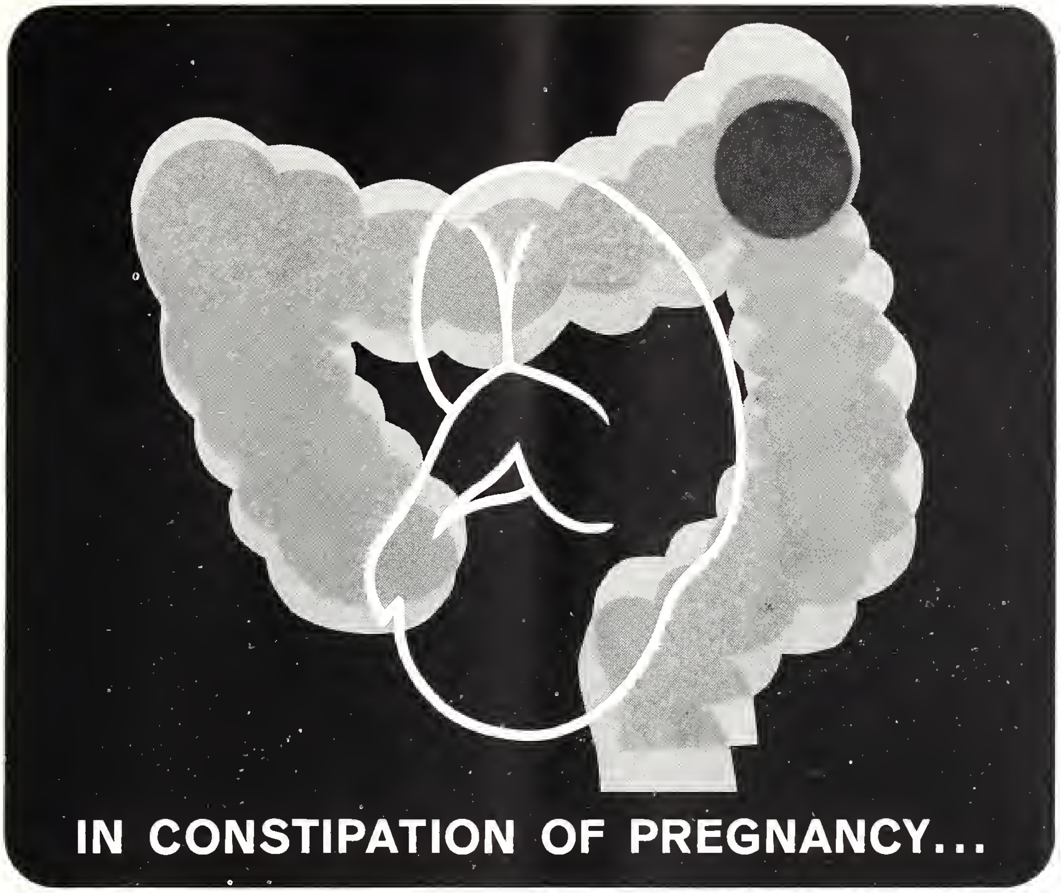
A Speaker of the House of Delegates and a Vice Speaker of the House of Delegates to fill the expired terms of William C. Mixson, M.D., Kansas City, Speaker, and Stanley S. Peterson, M.D., Springfield, Vice Speaker.

Two Delegates and corresponding alternates to the American Medical Association to fill the vacancies created by the expiration on December 31, 1963, of the terms of Delegate A. W. Neilson, M.D., St. Louis; Alternate, Robert Kelley, St. Louis; Delegate, Richard H. Kiene, M.D., Kansas City; Alternate, Rolla B. Wray, Nevada.

The terms (two years) of the Councilors of the even numbered districts expire this year:

Avery P. Rowlette, Moberly, Second District; Paul R. Whitener, St. Louis, Fourth District; O. B. Barger, Harrisonville, Sixth District; Doyle C. McCraw, Bolivar, Eighth District; W. D. English, Cardwell, Tenth District. Delegates from these districts shall meet during the meeting, prior to the last day, and elect the Councilor for their District. The election shall be certified to the House of Delegates on a prescribed form which will be furnished.

The entire session will be held in Hotel Muehlebach,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Since its action is not systemic and not habit forming, Metamucil may be safely administered throughout pregnancy.

Average Adult Dose: One rounded teaspoonful of Metamucil powder (or one packet of Instant Mix Metamucil) in a glass of cool liquid.

Metamucil is available as Metamucil powder in 4-, 8- and 16-ounce containers and as flavored Instant Mix Metamucil in cartons containing 16 and 30 single-dose packets.

G. D. SEARLE & CO., Chicago 80, Illinois
Research in the Service of Medicine

Kansas City. The House of Delegates will hold its first session on Sunday, March 24, at 1:30 p.m., in the Colonial Room. Reference Committees will meet in committee rooms in the hotel. The second session of the House of Delegates will convene at 4:00 p.m., Monday, March 25, in the Colonial Room. The final session of the House, a breakfast meeting, will be held in the Colonial Room of the hotel at 7:30 a.m., on Wednesday, March 27.

Registration will open on Sunday, March 24, from 12:30 to 3:30 p.m.; on Monday and Tuesday from 8:00 a.m. to 5:00 p.m.; and on Wednesday, from 7:30 a.m. to 11:00 a.m. Registration will be on the Mezzanine, Hotel Muehlebach.

JOHN I. MATTHEWS, Secretary.

The Speaker referred this report to the Reference Committee on Reports of Officers.

The report of the Executive Secretary, Mr. T. R. O'Brien, St. Louis, follows:

REPORT OF THE EXECUTIVE SECRETARY

The personnel in the office, Mr. Ray McIntyre, Mr. Tom Fox, Miss Helen Penn, Mrs. Bertha Thomas, Mrs. Mary Laskiwitz, Mrs. Shirley Volk and Miss Janice Cox are most deserving of the thanks of the members for devoted service to the Association. In addition, our public relations consultant, Mr. Lemoine Skinner, his staff members, Jordan Singleton and Gene Lunn, provided invaluable help on the many occasions when called upon to assist with Association activities. I wish to thank each of them for their help to me.

Though the reports of the Council, Standing and Special Committees, describe the many activities of the Association, they do not adequately show the amount of time and effort spent by the many committee members and other members who have given freely of their time to consider and act upon problems of interest to all members. I wish to thank them for their help to me, the staff and the Association.

TOM R. O'BRIEN, Executive Secretary.

The Speaker referred this report to the Reference Committee on Reports of Officers.

The report of the Treasurer, Charles R. Doyle, M.D., St. Louis, follows:

REPORT OF THE TREASURER

The report of the Treasurer is covered in the Financial Statement which appeared in the March issue of MISSOURI MEDICINE which was in the hands of members as well as officers of county medical societies approximately 30 days prior to the session. Since the societies have had the report and it appears in MISSOURI MEDICINE prior to the session, it is not repeated in these reports.

CHARLES R. DOYLE, Treasurer.

The Speaker referred this report to the Reference Committee on Reports of Officers.

The report of the Committee on Publication, Joseph V. Finnegan, M.D., St. Louis, follows:

REPORT OF THE COMMITTEE ON PUBLICATION

The 59th volume of MISSOURI MEDICINE was completed with the December 1962 issue. During 1962 there were published 44 scientific articles, two case reports, 16 special articles, 21 editorials, 11 President's Messages, 11 Washington, 11 Across Missouri, 11 Woman's Auxiliary, 11 Ramblings of the Field Secretary, 167 news items, 92 County Society proceedings, 169 new members, 73 deaths, 30 From the Medical Schools, 11 miscellaneous articles, two reports of the Council, 11 Missouri Academy of General Practice, two tuberculosis abstracts, 11 book reviews, 23 books received, minutes of the Annual Session, two correspondence, nine Curiosa et Trivia, 10 Capsule Clinics, nine Missouri Medicine in Review, four Ellis Fischel State Cancer Hospital, program of the Annual Session, financial statement, one listing of exhibitors and three rosters.

There were three special issues, one by the University of Missouri School of Medicine, one by the Ellis Fischel State Cancer Hospital and one a symposium on "Alcoholism."

There were 526 pages of advertising and 54 pages of advertising inserts and 726 reading pages.

Advertising in MISSOURI MEDICINE from January 1, 1962, to December 31, 1962, earned \$43,457.86. Subscriptions of nonmembers amounted to \$258.19, making \$43,716.05 earned by the publication. The cost of production (printing and engraving) was \$40,943.63.

JOSEPH V. FINNEGAN, Chairman,
RICHARD H. KIENE,
C. G. STAUFFACHER,
R. O. MUETHER,
BEN M. BULL.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Scientific and Postgraduate Work, John I. Matthews, M.D., Jefferson City, follows:

REPORT OF THE COMMITTEE ON SCIENTIFIC AND POSTGRADUATE WORK

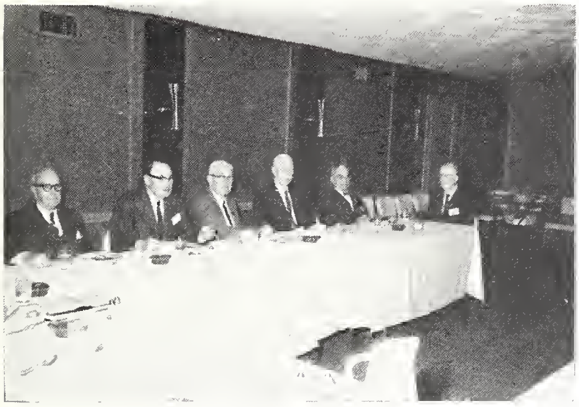
The Committee again in the 1963 Annual Session program has had the assistance of several state organizations and committees of the Association. This assistance to the Committee is not only greatly appreciated for the help it gives, but the Committee feels that it makes a much stronger program and is indeed indebted to the organizations that are presenting portions of the program.

The Committee is pleased with the cooperation of various Committees of the State Association in providing postgraduate programs for county medical societies over the state.

The Maternal Welfare Committee, the Medical Education and Hospitals Committee, the Committee on Civil Defense Disaster Medical Care, the Committee on the Control of Venereal Disease and the Committee on the Study of Cardiac Disease, at the request of county medical society program committees, have been most helpful in this respect.

This Committee has continued to work closely with the Education Committee of the Missouri Academy of General Practice and component county medical societies in promoting scientific programs for numerous county and joint county society meetings over the state the past year. These joint endeavors are conducive to better attendance at the meetings, and Missouri Academy of General Practice members are given more opportunities for meeting their postgraduate requirements for Academy membership.

During the last year the Committee was represented at a meeting of the Postgraduate Committee of the University of Missouri Medical School and representatives of the Missouri Academy of General Practice Education Committee. The purpose of this session was to discuss ways and means, through cooperative endeavors, of better meeting, in Missouri, the needs of postgraduate medical education for the busy practitioner. The Postgraduate Committee of the University of Missouri Medical School has developed a good number of scientific programs, through faculty members, which have been, and are being, offered to county medical societies over the entire state. This PG Committee of the University, working with the various departments of the Medical School, is stepping up the number and caliber of postgraduate programs now being held at the University Medical Center. Such programs are mailed out to the physicians over the state, within a reasonable time in advance of each session so that doctors may arrange their schedules to attend.



50 Year Club met Monday noon.

The Committee believes that most Missouri physicians continue to have readily available to them, in this state, a good number of interesting, informative and practical scientific postgraduate and refresher type programs. These are made available through: County Medical Societies, medical schools and their postgraduate departments, the Missouri Academy of General Practice and its local chapters, specialty organizations, clinical conferences such as the Kansas City Southwest Clinics, the Ozarks Empire Cancer Conference sponsored by the Greene County Medical Society, the Southeast Missouri Cancer Conference sponsored by the Cape Girardeau County Medical Society, symposiums and case presentation programs at the State Tuberculosis Sanatorium and Ellis Fischel State Cancer Hospital, and the annual meeting program of the Missouri State Medical Association.

The Committee, through the State Association office, is continuing its efforts to reduce to a minimum duplications and conflicts in medical programs held over the state by working closely with other organizations sponsoring scientific meetings.

The Committee takes this means to thank those physicians who have appeared on the many scientific postgraduate programs presented over Missouri the past year.

John I. Matthews, Chairman,
M. Pinson Neal,
Gerald L. Miller,
Wyeth Hamlin,
Peter G. Danis,
Melvin C. Kasten,
Carl H. Almond,
Robert W. Smith,
Richard W. Yore,
J. F. McDonnell.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Defense, Charles E. Hyndman, M.D., St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON DEFENSE

The Committee on Defense has had no case reported to it during the year and has had no meeting of the Committee.

Charles E. Hyndman, Chairman,
L. P. Forgrave,
Harold W. Miller,
Roland S. Kieffer,
W. W. Gist.

The Speaker referred this report to the Reference Committee on Amendments to the Constitution and By-Laws.

The report of the Committee on Mental Health, George W. Forman, M.D., St. Joseph, Chairman, follows:

REPORT OF THE COMMITTEE ON MENTAL HEALTH

The first meeting of the Committee on Mental Health was convened July 1, 1962, at the Missouri Hotel in Jefferson City.

Various topics were considered in the following order:

(1) A resolution, introduced by Dr. Reinhardt Dwyer of Clay County to the House of Delegates in 1961, was referred to the Committee on Mental Health for an opinion. Previous requests to the author relative to the intent of the resolution had remained unanswered. In conformity of the opinion of the Committee, a letter was sent to the author to the effect that it was the Committee's opinion that mental health activity should be carried out by scientific mental health organizations. The Council of the MSMA was informed of this action by the Chairman.

(2) The request of Dr. George A. Ulett, Director of the Division of Mental Diseases, to the Council of the MSMA for an opinion requesting the use of senior osteopathic students in the state mental hospitals and which had in turn been referred to the Committee on Mental Health was considered. The Committee decided that they should approve the request but with the qualifications that adequate supervision of the students be provided and an evaluation of the program be submitted to the Committee after one year. This opinion was submitted to the Council by the Chairman.

(3) The broad plans of the First AMA National Congress on Mental Illness and Health to be convened in Chicago on October 4 to 6, 1962, was gone into and necessary procedures and committee functions were outlined.

(4) Principles involved in the acceptance of federal monies in the field of mental health were discussed. The Committee was of the opinion that so long as the money was restricted to use in education, research and construction and that actual control remained in the local community and the state that it would be acceptable.

(5) Dr. James Haddock discussed the program of the Division of Mental Diseases for the intensive treatment and training centers in St. Louis, Columbia and Kansas City.

(6) The problem of prepaid health insurance in the field of psychiatry was discussed.

(7) Releases from the AMA as of May 14, relating to addiction was read, and it was decided that a portion of that report be published in Missouri Medicine.

Because of the recognized magnitude of the problem of mental illnesses in the United States, Section 304 (b) of Public Law No. 182, was approved July 28, 1955. This mental health study act of 1955 directed the Joint Commission on Mental Illnesses and Health as chosen by the National Institute of Mental Health, to analyze and evaluate the needs and resources of the mentally ill in the United States and to make recommendations for a mental health program. The final report of the Joint Commission, entitled "Action on Mental Health" was submitted in 1961. The outcome of "Action on Mental Health," after much study, was the convening of the First AMA National Congress on Mental Illnesses and Health held in Chicago by the joint efforts of the American Medical Association and the National Association for Mental Health.

This Congress convened October 4 to 6, 1962, in Chicago, and was attended by more than 2,000 persons from the various states including a delegation of 54 persons from the State of Missouri.

According to preliminary plans, a Steering Committee for the Missouri delegation was formulated consisting of five physicians appointed by the President of the MSMA, five psychiatrists representing the Eastern and Western Missouri District Branches of the APA and five members chosen by the Missouri Association for Mental Health. The chairman of the Mental Health Committee of the MSMA automatically became chairman of this Steering Committee and presided throughout the deliberations of the Missouri Delegation at the AMA Congress in Chicago.

The immediate outcome of the deliberations of the Missouri Delegation was to unanimously endorse four resolutions for action designed to facilitate more intensive and effective treatment of psychiatric illnesses in the State of Missouri. Considered to hold the Number 1 priority was the establishment of three active treatment centers for psychiatric illnesses in St. Louis, Columbia and Kansas City, respectively, as embodied in the program of the Missouri State Division of Mental Diseases. The fact of the endorsement of this program by the Missouri delegation in Chicago, was presented to and received the endorsement of the Council of the MSMA. Accordingly, as an aid in implementing this program, letters of explanation and requests for active approval of this program were forwarded to the presidents of all county medical societies. Also similar letters and requests were forwarded to the Missouri Congress of Parents and Teachers, the President of the Missouri Association for Social Welfare, the President of the Missouri Medical Association Auxiliary, the President of the Missouri State Nursing Association and to the President of the Missouri Organization of the Council of Churches. Also requests of support of this program were forwarded to all of the senators and representatives of the Missouri Legislature by the Missouri Association for Mental Health.

Resolution No. 2 unanimously endorsed by the delegation included actions to facilitate prepaid insurance coverage for psychiatric illnesses equal to that of medical and surgical illnesses.

Resolution No. 3 entailed plans for implementation of training for non-psychiatric physicians in the field of psychiatry. An additional resolution was approved for plans to increase facilities for treatment of emotionally disturbed children and mentally retarded children.

Programs for implementing the latter three resolutions were considered at a second meeting of the MSMA Committee on Mental Health convened again at Jefferson City on December 2, 1962, and are now in the process of being studied.

A future meeting of the Steering Committee immediately preceding or during the forthcoming Annual Session of the MSMA is being considered. Definite plans have not yet been drawn up.

George W. Forman, Chairman,
James N. Haddock,
Henry V. Guhleman,
William I. Stryker,
D. R. Edwards,
A. L. Brown,
George H. Lawrence,
James M. A. Weiss,
Robert S. Terrill.

The Speaker referred this report to the Reference Committee on Miscellaneous Affairs.

The report of the Committee on Cancer, Charles E. Lockhart, M.D., Springfield, Chairman, follows:

REPORT OF THE COMMITTEE ON CANCER

The Committee on Cancer is cosponsoring a Panel on Cancer of the Breast, to be held on Tuesday, March 26, 1963 at the Muehlebach Hotel, Kansas City, Missouri, during the Annual Session of the Missouri State Medical Association. The other cosponsor is the Missouri Division of the American Cancer Society. The panel consists of the following participants:

John J. Modlin, M.D., Moderator, Columbia, Missouri
John W. Pickren, M.D., Buffalo, New York
William T. Moss, M.D., Chicago, Illinois
Charles Eckert, M.D., Albany, New York

The Committee members were in contact through correspondence but in the absence of business matters requiring open discussion or other action, the Committee members did not convene in person during the past year. The Committee stands ready to cooperate in every way possible in activities pertaining to cancer control in the State of Missouri.

Chas. E. Lockhart, Chairman,
George A. Carroll,
John E. Lamy,
Joseph L. Fisher,
James R. McVay Jr.,
E. J. Schewe,
H. C. Stricker,
Henry C. Allen,
G. Neil Berry,
John H. Platz.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Maternal Welfare, A. C. Trueblood, M.D., St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON MATERNAL WELFARE

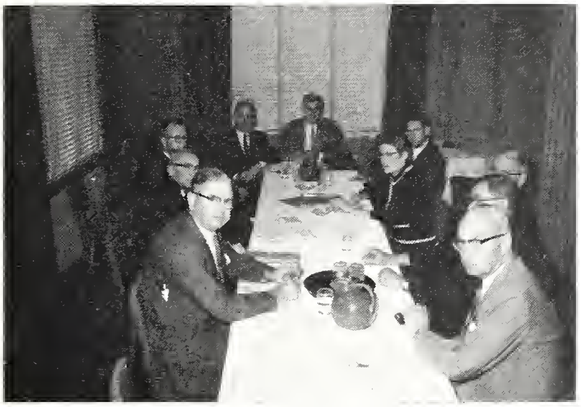
On November 11, 1962, the Committee on Maternal Welfare met at the Missouri Hotel in Jefferson City. Present were: Drs. A. C. Trueblood Jr., presiding; C. Gordon Stauffacher, Sedalia; E. E. Wadlow, St. Joseph; Paul E. Kratz, Cape Girardeau; J. J. Wimp, Kirksville; MacDonald Bonebrake, Springfield; Seymour Monat, St. Louis; H. M. Hardwicke and L. M. Garner, Jefferson City; Mr. Marshall, Statistical Division, Division of Health, Jefferson City; Ray McIntyre and Helen Penn, St. Louis.

PUBLICATION OF CASE REPORTS

The subject of publishing case reports in MISSOURI MEDICINE, based on the work of the Committee was discussed again, and again it was deferred, pending further consideration of specific problems entailed.

RESOLUTION FOR LEGISLATIVE ACTION

A resolution presented by the staff of St. Mary's Hospital, Kansas City, and also a letter from the legislative department of the AMA pertaining thereto were read by Mr. McIntyre. The resolution follows:



The Committee on Maternal Welfare met during the year.

From: Executive Committee, Medical Staff, St. Mary's Hospital, Kansas City, Missouri.
To: Kansas City Bar Association.
St. Louis Bar Association.
Missouri Bar Association.
American Medical Association Legal Department.
Missouri Hospital Association.
Missouri State Medical Association.
Catholic Hospital Association.

WHEREAS, The experience of the last few years makes it abundantly clear that a periodic evaluation of patient care in the hospital results in the elevation of quality of medical care, and

WHEREAS, Most hospitals are now engaged in such evaluations through tissue, record and audit committees, and

WHEREAS, Such committees function most effectively as voluntary educational arms rather than punitive agencies, and

WHEREAS, Legal access to the files of these committees for litigation purposes would weaken, if not destroy, the effectiveness of their activities, now therefore be it

Resolved, That a bill be introduced in the 1963 session of the Missouri legislature with the intent of rendering the records of all hospital review committees (such as but not limited to record, audit and tissue committees) immune to subpoena for any reason whatever, be it litigation between staff physicians involved or on behalf of a patient whose care has been evaluated.

After short discussion, the Committee expressed the feeling that the resolution did not apply to work it was doing, and that the resolution should be referred to the Council for asignment to a more appropriate committee.

AVAILABILITY OF INFORMATION OF COMMITTEE

Dr. Trueblood presented a suggested worksheet, summarizing current case evaluations, that might be used by both the East and West Divisions of the Committee, with exchange periodically to keep both sections up to date on current statistics and problems. The members of the Committee were asked if they desired to receive the worksheets, and the decision was that they be available upon request by any member who might have occasion to need them.

CORONER'S LAW

The need for a new Coroner's Law was discussed briefly. Although the Committee felt itself in no position to take action, it was noted that the present system frequently hampers the collection of accurate data in maternal death studies and thus the functioning value of the Committee's overall program. It was felt that the present Coroner's Law in Missouri is archaic, and an improvement in the law would be most desirable.

ANNUAL SESSION

The program for the Committee on Maternal Welfare luncheon to be held during the Annual Session in Kansas City on March 25, 1963, was discussed. It was pointed out that the Kansas City Gynecological Society wished to use the luncheon speaker at a meeting in the evening of the same day. Since there is no speaker on an obstetrical subject on the principal program, Dr. Trueblood contacted Dr. John I. Matthews, chairman of the Program Committee. Dr. Matthews instructed the Committee to confer with the Kansas City group and select a speaker, with the MSMA paying an honorarium or the expenses of the speaker, whichever was greater, with the Kansas City Society paying the other. Dr. Trueblood was delegated to carry through on the selection of a speaker in conference with representatives of the Kansas City Society. It was suggested that the subject of the presentation at the luncheon meeting should be "Septic Shock." It was also decided that the Annual Statistical Report on the work of the Committee be presented in mimeographed form and not given as an oral presentation. It was further decided to recommend to the Program Committee for the MSMA Annual Meeting that a speaker on some Ob-Gyn subject be on the program each year.

Following the meeting of the Committee, Dr. Trueblood conferred with Dr. Robert L. Newman of the Kansas City Gynecological Society, and arranged for Dr. Duncan E. Reid, William Lambert Richardson Professor of Obstetrics and Head of the Department of Obstetrics & Gynecology at Harvard University, to act as guest speaker at the luncheon meeting in Kansas City. Dr. Reid has done considerable work in the field of septic shock in obstetrics.

DEATH CERTIFICATES

The possibility of a hurried-up cause of death being entered on a death certificate because of pressure by the funeral director or the registrar was discussed, but no action was taken. It was pointed out by Dr. Hardwicke that any physician may enter a tentative cause of death on the death certificate and later amend it following autopsy or laboratory reports. However, it was noted that this is not frequently done by the physician in attendance. The Committee felt that as a result of this system, the accuracy of death certificate diagnoses left much to be desired in pursuing its case studies.

A. C. TRUEBLOOD, Chairman,
H. C. WILLUMSEN,
WILLIAM B. SEE,
JAMES E. KEELER,
IRWIN T. CRAIG,
C. G. STAUFFACHER,
E. E. WADLOW,
PAUL E. KRATZ,
J. J. WIMP,
MACDONALD BONEBRAKE,
EUGENE G. HAMILTON,
ROBERT S. BROWN,
SEYMOUR MONAT,
V. D. VANDIVER.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Infant and Child Care, James A. Kinder, M.D., Cape Girardeau, Chairman, follows:

REPORT OF THE COMMITTEE ON INFANT AND CHILD CARE

This Committee has not met as a committee group during the last year, but various members have served as advisors to numerous projects, and the Committee has furnished members to meet with several groups about the State of Missouri relating to health problems of children.

Specifically, members of this Committee met on Sunday, May 6, 1962, in St. Louis, being included in a much larger group known as the State Live Polio Vaccine Advisory Committee. This Committee was set up and met at the request of Dr. Hardwicke of the Missouri Division of Health, for a firm statement to be agreed upon by all attending, as to the use of the new Sabin vaccine. Representatives were present from MSMA Committee on Infant and Child Care, Missouri Academy of General Practice, Missouri Academy of Pediatrics, Missouri Division of Health, and various public health officials from St. Louis County, St. Louis City and Kansas City. Able assistance was afforded the group by Ray McIntyre and Jordan Singleton from MSMA staff.

The report of this advisory committee was publicized widely on May 23, 1962, suggesting that the use of Sabin vaccine be held until fall or winter time after a bit more experience was obtained in the use of the vaccine, and since it was generally felt to be more effective in the winter. Following newspaper publicity of some dubious dangers relative to the use of Type III Sabin vaccine, the advisory subcommitte of the overall committee was polled by phone by the Missouri Division of Health, and decision was reached to further postpone use of Sabin vaccine until these doubts could be dispelled. Further action on this problem awaits scientific developments with regard to the safety of the vaccine.

The Committee on Infant and Child Care also had representatives at a meeting at Jefferson City with the Missouri Division of Health July 12, 1962, with regard to Dental Treatment of Handicapped and Crippled Children. The Missouri State Elks Association offered to purchase a fully equipped Mobile Dental Unit for the treatment of manageable handicapped and crippled children in the State of Missouri. The Missouri Division of Health is furnishing staff and supplies. Individuals were present at this meeting from MSMA, Missouri Dental Association, Crippled Children's Service of Missouri, Missouri State Elks Association, Missouri Division of Health, University of Missouri Medical School, Missouri Academy of General Practice, Washington University Dental School, as well as various other public health officials. After considerable discussion and exchange of ideas between the various representatives, agreement was reached and the first such Mobile Dental Unit was to be placed in operation in the fall. This has been consummated. Eventually five such units are planned for operation over the State of Missouri, as they are purchased by the Elks Association, and staffed by the Missouri Division of Health.

JAMES A. KINDER, Chairman,
E. J. SCHWARTZ,
DANIEL B. LANDAU,
H. E. PETERSEN,
R. J. LADRIERE,
GUY N. MAGNESS,
CLEMENT E. BROOKE,
JAMES J. PASCOE,
JACK N. WILES,
S. F. COCKERELL.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Eye Health, John McLeod, M.D., Kansas City, Chairman, follows:

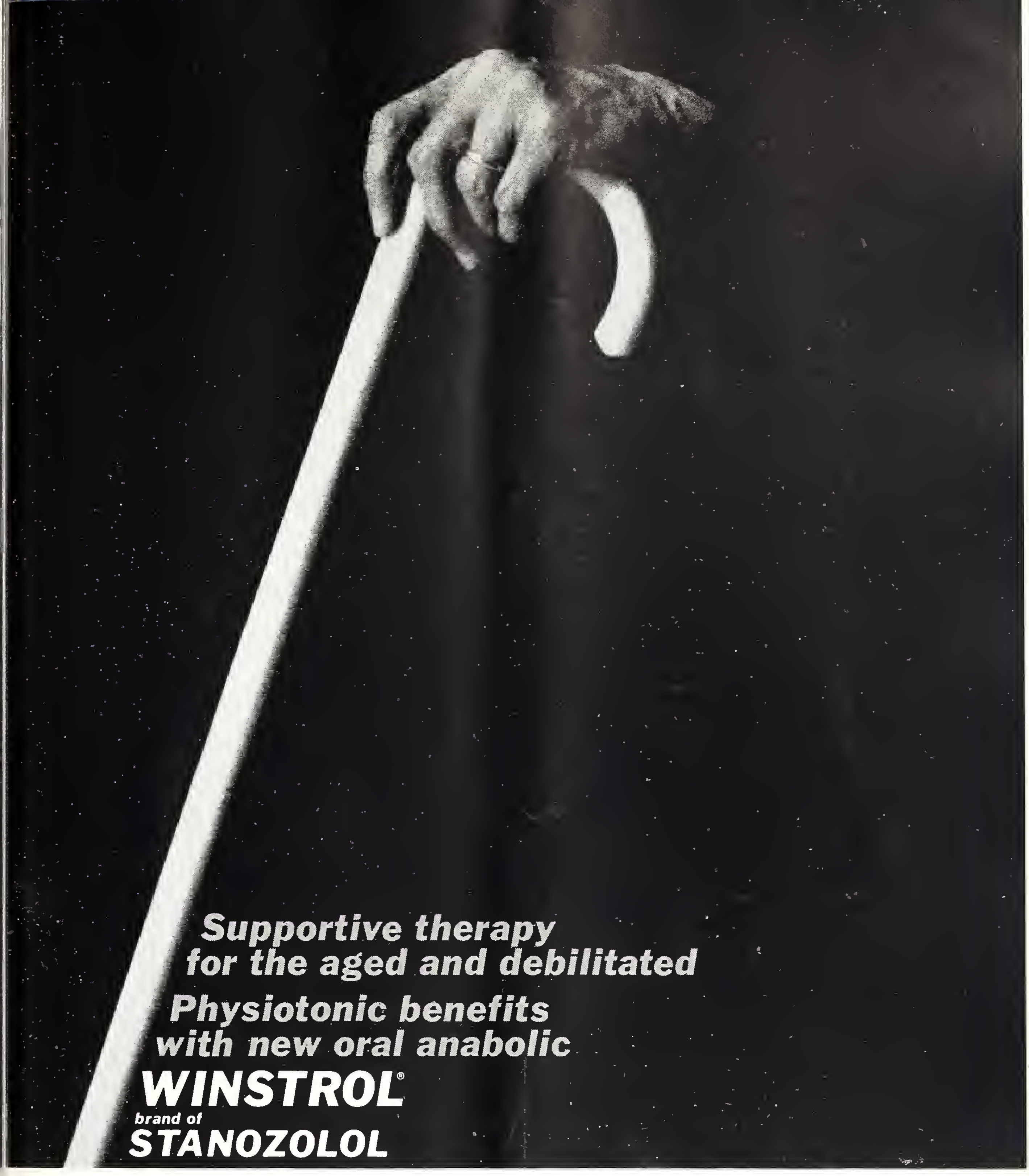
REPORT OF THE COMMITTEE ON EYE HEALTH

The Committee on Eye Health met in Jefferson City on December 16, 1962, to consider legislation and other matters concerning optometry as per a request received from the Missouri Optometric Association, as follows:

"The Missouri Optometric Association is again planning on entering legislation at the 1963 legislature. It is our wish that we may meet with representatives of the Missouri State Medical Association in order that we might gain complete understanding and cooperation in securing these amendments to the optometry law. I have been authorized by the president of the Missouri Optometric Association to pursue such a meeting.

"I have consulted with Dr. W. L. Post for the past year as to the best procedures to take in order to facilitate this understanding. We have decided that it would be better if we start through the proper channels, thus this is the reason for the letter to you.

"I personally would enjoy the opportunity of discussing this with your committee on ophthalmology but will be more than glad to pursue any course that you deem advisable. There are many areas of misunderstanding that might be clarified by a mutual meeting between both groups aside from legislative issues. I can assure you that the Missouri Optometric Association would be more than willing to cooperate in any such effort."



Notable increase in vigor, strength and sense of well-being

ROL (stanozolol-Winthrop), a heterocyclic steroid, combines
anabolic effects with outstanding tolerance, stimulates appe-
promotes weight gain . . . restores a positive metabolic balance.
teracts the catabolic effects of concomitant corticosteroid or
herapy. WINSTROL (stanozolol-Winthrop) rebuilds body tissue
builds strength, confidence and a sense of well-being in con-
associated with excess protein breakdown, insufficient protein
ınd inadequate nitrogen and mineral retention.
fects and Precautions: Prolonged administration can produce
'sutism, acne or voice change. In an occasional patient, edema
ɜn observed and in young women the menstrual periods have
ilder and shorter. These side effects are reversible, and pa-
eceiving prolonged treatment should be examined and ques-
tioned periodically so that, should side effects appear, the dosage may be reduced or administration of the drug discontinued for a time. In patients with impaired cardiac and renal function, there is the possibility of sodium and water retention. Liver function tests may reveal an increase in bromsulphalein retention, particularly in elderly patients. In such cases, therapy should be discontinued. Although it has been used in patients with cancer of the prostate, its mild androgenic activity is considered by some investigators to be a contraindication. **Dosage:** Usual adult dose, 1 tablet t.i.d. before or with meals; young women, 1 tablet b.i.d.; children (school age): up to 1 tablet t.i.d.; children (pre-school age): ½ tablet b.i.d. Available as scored tablets of 2 mg. in bottles of 100. For best results, administer with a high protein diet.

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PROPOSED OPTOMETRIC ACTS

The Committee considered the proposed House Bill, dealing with Sections 336.110, 336.140 and 336.160, and the proposed Senate Bill, dealing with a revision of 336.080, which had been submitted by the Missouri Optometric Association.

Following discussion, it was agreed unanimously that MSMA has no reason to oppose either of the proposals since they do not deal specifically with the definitions of optometry or the scope of practice of optometry. It was agreed that Mr. O'Brien should convey that opinion to the Administrative Secretary of the Optometric group, Mr. Forrest Wallace.

MEETING WITH OPTOMETRIC COMMITTEE

Following luncheon, the Committee met with members of the Optometric group to discuss non-legislative matters.

Dr. Cable, O.D., Joplin, presented three specific items and recommended that joint committees be established to discuss them. They were, (a) external commercialism in the sale of glasses; (b) study of school screening programs; (c) research programs.

After a brief discussion, the two committees went into executive session. It was agreed that a letter be written to Dr. Cable, requesting a written analysis of the three items for later consideration of the Committee. It was further agreed that the members of the Committee would send their opinions of the proposed programs and their decisions as to the need for joint committees to the office of the Association.

John McLeod, Chairman,
Michael F. Pernoud,
H. B. Ivy,
Paul G. Wolff,
H. B. Stauffer,
Dick H. Underwood,
S. Albert Hanser,
Paul M. Beck,
D. E. Eggleston,
W. L. Post,
John A. Buesseler,
George Mandler,
Robert S. Minton.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Industrial Health, Douglas A. Ries, M.D., St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON INDUSTRIAL HEALTH

No matters were referred by the Missouri State Medical Association Council to the Committee on Industrial Health in regard to occupational or industrial health problems. Likewise, there were no matters referred to the Committee by the Missouri State Division of Health for consideration. For these reasons, no meeting was held by the Committee on Industrial Health in 1962.

The Committee is aware of the Missouri State Legislature being in session and if any legislation is brought up dealing with the problems relative to occupational and/or industrial health, the Committee will attempt to keep abreast of such legislative proposals and advise the Missouri State Medical Association.

Douglas A. Ries, Chairman,
H. M. Roebber,
Vencel W. Hollo,
William H. Duncan,
S. W. Scorse,
James W. Clawson,
C. Rush McAdam,
Richard A. Sutter,
C. H. Appleberry.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Diabetes, H. E. Oppenheimer, M.D., St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON DIABETES

Professional Education.—In March 1962 the Missouri State Diabetes Association sponsored a dinner meeting with the Committee on Diabetes at which time Henry T. Ricketts, M.D., Chicago, spoke on "The Role of the Kidney in the Disposal of Insulin." The next day Dr. Ricketts also spoke on "Diabetes Mellitus in the Elderly and Its Treatment With Hypoglycemic Agents" at the annual Missouri State Medical Association meeting.

Paul E. Lacy, M.D., St. Louis, spoke at another meeting of the Missouri State Diabetes Association in November 1962. His paper was on "The Electron Microscope in the Study of the Beta Cells."

Randall Sprague, M.D., Rochester, Minn., addressed a meeting of the St. Louis Clinical Diabetes Society in November 1962 on the subject of "Treatment of Diabetes With Insulin, Oral Agents and Diet."

Public Education.—Dr. Wales, Associate Director of the Massachusetts Mutual Life Insurance Company, spoke to a St. Louis audience in March 1962 on the subject of "Insurability of Diabetics," and on the same program Sidney Goldenberg, M.D., spoke on "Employability of Diabetics."

Dr. Sprague, following his talk to the physicians in November 1962 addressed a lay audience on the subject of "Living With Diabetes." As is well known, Dr. Sprague, who is Chief of the Endocrine Section of the Mayo Clinic, has had diabetes for over thirty-five years.

Detection.—Diabetes Detection Drives were carried out in St. Louis and Kansas City as well as in numerous smaller communities. In addition, a detection campaign carried out in Sullivan, Missouri, was studied by the State Health Division and the Missouri State Diabetes Association and is probably the most complete for an area of its size.

At present a detection campaign is being carried out by the same organizations in a rural area of Reynolds County.

Research.—In addition to the usual research carried out by the University Hospitals which is outside the realm of this report, an interesting résumé on detection entitled "A Report on Diabetes Detection" was published in the *JAMA* on November 10, 1962, by members of the St. Louis Clinical Diabetes Society. An editorial in the same issue on "Diabetes Detection" alluded to this article and to Detection Week in general.

Camps.—There were two camps this year in Missouri, namely in Kansas City and in St. Louis.

Patient Education.—The American Diabetes Association is attempting to further its educational program to the physician so that patients might be adequately and correctly taught about diabetes. They have devised a minimum check list for the physician to teach his patient. This nine point check list is as follows:

1. Diet.
2. Urine testing.
3. Action of insulin and other hypoglycemic agents.
4. Technique of insulin injection and sites for it.
5. Care of syringe and of insulin.
6. Symptoms of hypoglycemia.
7. Symptoms of uncontrolled diabetes.
8. Care of the feet.
9. What to do in case of acute complications.

HENRY E. OPPENHEIMER, Chairman,
C. BRUCE LEMON,
H. M. GILKEY,
LUCIEN W. IDE,
CHARLES M. LAMKE,
WILLIAM H. OLMSTED,
HAROLD K. ROBERTS,
RALPH S. CASFORD,
THOMAS W. BURNS,
JACK L. VINYARD,
ROBERT E. KOCH.

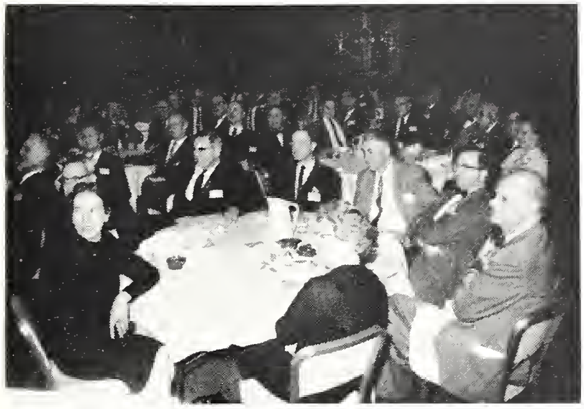
The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Control of Venereal Disease, E. M. Powell, M.D., Springfield, Chairman, follows:

REPORT OF THE COMMITTEE ON CONTROL OF VENEREAL DISEASE

The Committee on Control of Venereal Disease met at the Missouri Hotel, Jefferson City, May 23, 1962. Members in attendance were Dr. E. M. Powell, Dr. T. E. McMillan and Dr. A. W. Neilson. Others in attendance were Dr. E. A. Belden and Mr. Wilson Corcoran of the Division of Health, Dr. Jack Shapiro of the St. Louis Health Department and Mr. Raymond McIntyre of the Missouri State Medical Association staff.

The results of past recommendations to the Council of the Missouri State Medical Association were reviewed and discussed. Dr. Neilson discussed the disturbing rate of increase of primary syphilis, both in Missouri and in the nation as a whole. In St. Louis the number of cases increased from 43 in 1960 to 88 in 1961, and Dr. Shapiro feels without question that it will exceed 100 cases in 1962. The other disturbing factor is the percentage of teenage children, all in school, with about an equal amount of Negro and white children. Dr. Neilson felt that three factors were primarily responsible: (1) A withdrawal of state and federal moneys and services for the control of syphilis, (2) a lack of knowledge of present day physicians of syphilis as a disease, and (3) a lack of an adequate program of sex education and hygiene for teenage children.



University of Missouri Alumni held a luncheon meeting on Tuesday.

Dr. Shapiro also emphasized the lack of awareness by physicians of the increasing syphilis rate, stating that in his contact with the medical schools he found there was no organized teaching of this disease. Dr. Neilson felt that the one area in which the Committee could have some control would be to try to increase the awareness of physicians in the State of Missouri of this problem.

Dr. McMillan felt that organized programs just on the subject of syphilis would be poorly attended. He had done some investigating in Jackson County and found a question of interest and lack of awareness by both private physicians and members of the County Health Staff. He suggested that an announcement type organized program given during a regularly scheduled medical society scientific meeting would be more effective than having a pre-arranged program on syphilis for the Society. This method was voted on favorably, and Dr. Neilson and Dr. Shapiro were asked to try to prepare such a program which is to be sent to the Committee members for their comments and suggestions.

Dr. Belden showed an excellent film on syphilis and its problems which took twenty minutes. All felt that this would be of great value in presenting this problem at medical meetings if time is available.

E. M. POWELL, Chairman,
JOHN E. BYRNE,
A. W. NEILSON,
ROBERT B. BRISTOW,
T. E. MCMILLAN,
RALPH BOHNSACK,
G. R. WEMPE.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Civil Defense Disaster Medical Care, Carl D. Siegel, M.D., Sedalia, Chairman, follows:

REPORT OF THE COMMITTEE ON CIVIL DEFENSE DISASTER MEDICAL CARE

The Committee met on May 6, 1962 and January 13, 1963.

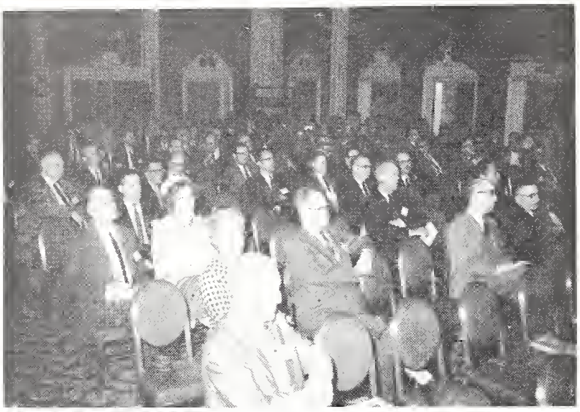
MEETING OF MAY 6, 1962

The Committee met at Hotel Missouri, Jefferson City, with Carl D. Siegel, M.D., Chairman, presiding. Announcement was made of approval by the House of Delegates at the 1962 Annual Session of the Medical Self-Help Program. It was reported that a self-help kit was available for distribution upon request. A program for the training of laymen has been set up under direction of Medical Doctors and Doctors of Osteopathy. Dr. Siegel reported on programs he conducted or attended across the state. A report was made also on the 72 Civil Defense (200 bed) Emergency Hospitals. Sixty-nine of these hospitals are prepositioned across the state and three are available for training and exhibit.

Report of May 6 meeting was approved by the Council at a meeting on May 26, 1962.

MEETING OF JANUARY 13, 1963

The Committee met in Jefferson City, with Carl D. Siegel, M.D., Chairman, presiding. The Chairman reported on programs conducted or attended at the national, state and local level. Reports included: (1) the AMA 13th County Medical Society Conference, November 3-4, 1962 in Chicago. (2) The Mo-Kan Civil Defense Program in the Jackson County area. (3) Implementation of training exercises using the 72 emergency (200) bed) civil defense hospitals prepositioned across the State. (4) Report to date on self-help training courses using the 96 kits allocated to Missouri. It was stated that 2,000 persons have been trained to date and that 500 additional kits are to be allocated to Missouri by March 15. Mr. Mayfield, speaking for Civil Defense Health Mobilization, stated that program sponsors at present are about 55 per cent Medical Doctors and 45 per cent Doctors of Osteopathy. (5) The Chairman reported on the latest programs instructing laymen on protection from the hazards of chemical and biological warfare. (6) Reference was made to the *AMA Journal*, December 15, 1962, reporting that the American Hospital Association announced that agreement has been reached to approve hospitals as fallout shelters.



Speakers held attention of audience.

It was announced that an exhibit booth will be sponsored by the Committee at the 1963 MSMA Annual Session, March 24 to 27 in Kansas City. It was agreed also that time on the 1964 program will be requested.

It was reported that AMA is planning an itinerary to visit states in the spring of 1963. If the Committee invitation is accepted by AMA, the next meeting will be held in St. Louis, May 19, 1963.

CARL D. SIEGEL, Chairman,
M. P. LEECH,
H. D. STEINBECK,
CARROLL P. HUNGATE,
JOHN L. MOTHERSHEAD,
JOHN H. WALTERSHEID,
CURTIS H. LOHR,
R. NED WHITE,
GEORGE F. THOMA,
GEORGE L. WATKINS,
O. P. HAMPTON,
J. S. SANDERS.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Radiology and Ionizing Radiation, Wendell G. Scott, M.D., St. Louis, chairman, follows:

REPORT OF THE COMMITTEE ON RADIOLOGY AND IONIZING RADIATION

The Chairman of the Committee on Radiology and Ionizing Radiation has served as a member of the Missouri Atomic Energy Commission and as advisor to the Division of Radiological Health of the Missouri State Division of Health.

Recently the Missouri State Division of Health has received a grant of approximately $34,000 from the U. S. Public Health Service to initiate and finance a program of Radiological Health for the State of Missouri.

These funds can be used for setting up a state wide system of registration and ultimately inspection of all radiological equipment within the state, both medical and industrial.

The St. Louis Medical Society and the St. Louis County Medical Society have established a Committee on Radiation to serve this community on problems in this field. A Subcommittee on Medical Radiation Control has already initiated a voluntary radiological survey of radiation equipment used for medical purposes in this community.

This survey is now in progress and a contract was made with Nuclear Consultants, Inc., to provide this service to any physician requesting a radiation survey of his x-ray equipment. This is done at a reasonable cost and certainly will be of benefit to the physician and to his patients in assisting him in minimizing the amount of radiation that is delivered to them.

The State Committee on Radiology and Ionizing Radiation strongly supports this voluntary radiation survey and encourages all physicians in that community to participate. It is also hoped that other communities within the state will establish similar voluntary radiation surveys and will assist the Division of Radiological Health of the Missouri State Division of Health in carrying out their projects as they materialize.

WENDELL G. SCOTT, Chairman,
MILTON SHOSS,
LOUIS A. SCARPELLINO,
MARVIN L. NAPPER,
MARK D. EAGLETON,
J. STEWART WHITMORE,
GWILYM S. LODWICK.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Tuberculosis, Florence E. MacInnis, M.D., Kansas City, Chairman, follows:

REPORT OF THE COMMITTEE ON TUBERCULOSIS

The Committee on Tuberculosis met on November 18, 1962, with representatives of the Missouri Tuberculosis Association, the Missouri Thoracic Society and the Missouri Division of Health. The agenda included, (1) discussion of the Respiratory Disease Campaign set by the National Association for the spring of 1963, and (2) discussion of an eventual, all out program, for the eradication of tuberculosis.

RD CAMPAIGN, MAY 1, 1963

Brochures prepared by the National Tuberculosis Association were distributed and identified as 1963 RD

Campaign Materials. Special attention was called to a Physicians Guide, "Chronic Cough or Shortness of Breath." The intention of the program is to encourage early diagnosis among patients under the care of the private practitioner. Public local kickoff and publicity is to begin May 1, 1963, and continue intensively through June 15, 1963. Educational work will continue thereafter. The educational program is to be financed through the sale of regular Tuberculosis Christmas Seals.

It was agreed that Missouri Tuberculosis Association would procure and mail the Physicians Guide to each member of the Missouri State Medical Association, with assistance of MSMA.

It was agreed that involvement and orientation of industrial physicians is important so that they will not be disturbed regarding industrial hazards.

Mr. Don Pratt reported that the Missouri Tuberculosis Association executive committee had already approved the RD Campaign.

The Missouri Tuberculosis Association will seek names of speakers from the Missouri State Medical Association, pursuant to arrangement of programs and publicizing the RD Campaign to laymen. Efforts will be made also to publicize the RD Campaign in all state and local medical journals.

REPORT FROM MISSOURI DIVISION OF HEALTH

Dr. Meinershagen, reporting on the new Missouri Recalcitrant Law (effective October 13, 1961), called attention to the need for additional funds to provide more facilities and guards for patients to improve compliance with the new law.

Certification program was reported including students and teaching institution personnel, to date, involving 120,000 adults and children in 32 counties. Case findings, however, indicate a lower incidence of tuberculosis than is found in surveys using the chest x-ray system.

Dr. Meinershagen reported that decreasing government funds warranted greater effort to control the use of expensive supplies and drugs.

There was a discussion on varied types of tuberculin tests and on the use of varied types of tests throughout the state without any definite conclusion being drawn, except that the Mantoux test is considered most acceptable and the Tine test is now considered acceptable for mass testing in Missouri.

PROBLEMS OF DISTRICT CONFINEMENT

Dr. Kerr called attention to the fact that tuberculosis cases during 1961 were greater in number in St. Louis County than those in St. Louis City. It was suggested that action be taken for easier access to Koch Hospital facilities especially for patients in the eastern part of the state. Such action would greatly reduce the number of patients being sent a long distance to the Missouri State Sanatorium at Mount Vernon, which would reduce the number of patients leaving against medical advice. Discussion followed on the subject of differential in the per diem rates pursuant to reimbursement by the state. Dr. Meinershagen stated that he would refer this suggestion to Dr. Hardwicke for consideration.

PSYCHOTIC—TUBERCULOSIS PATIENT CARE

It was agreed that the need is urgent for facilities to hospitalize psychiatric patients who are also victims of tuberculosis. Dr. Meinershagen reported that the Division of Health is already investigating this.

The full report of the Committee's meeting appears in the Council Report to the House of Delegates under date of Council meeting, December 8-9, 1962, during which meeting the Council accepted the Committee's November 18 report.

Florence E. MacInnis, Chairman,
Paul Murphy,
H. M. Roberts,
Joseph L. Lucido,
Walter C. Gray,
David N. Kerr,
John W. Polk,
Carl G. Popp,
Judson I. Chalkley,
Joseph A. Conrad.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Rural Medical Service, B. J. Bass, M.D., Salem, Chairman, follows:

REPORT OF THE COMMITTEE ON RURAL MEDICAL SERVICE

During the year 1962, 30 physicians located in nonmetropolitan areas of the state and seven of these are graduates of Missouri University Medical School. The physician's placement bureau in the State Association's headquarters office was instrumental in effecting a good number of these locations. A number of physicians visited the office during the year seeking information on suitable locations. In addition, a large volume of correspondence was carried on with physicians, both in and out of the state, concerning places to practice in Missouri. Many of the visits and much of the correspondence was with interns and residents. Some physicians returning from military service contact the bureau before selecting their location. The Council on Medical Service of the AMA sends to the State Association office the names of those physicians interested in Missouri locations who have contacted the AMA first.

Dr. Berry moderated a panel on "What's New."

Considerable correspondence is regularly carried on with representatives of various communities over the state regarding their requests for assistance in getting additional medical manpower. The bureau has aided established physicians or groups in their quest for associates. The Association Field Secretary, in his travels over the state, has collected much valuable location information which has been helpful in the placement bureau's work.

The Committee has continued this last year, through the Council on Rural Health of the AMA, to furnish articles about local health and medical care problems to the *Missouri Ruralist* which reaches many farm people over the state. These articles are slanted for farm people and written by selected physicians over the entire United States.

On May 9, 1962, during the Annual Spring Clinical Conference held at the University of Missouri Medical Center, the Committee, in cooperation with the Missouri Academy of General Practice, sponsored a luncheon meeting at the Medical Center for the senior medical students of the University of Missouri. Following the luncheon, discussions were given on solo practice, partnership practice and small group practice in localities in out-state Missouri. Dr. Donald Dowell, President of the Missouri State Medical Association, and Dr. Roy Pearse, President of the Missouri Academy of General Practice, spoke at the session along with Dr. B. J. Bass, Salem, solo practice; Dr. Charles A. Worley, Sweet Springs, partnership practice; and Dr. A. E. Spelman, Smithville, group practice.

Following the formal presentations, a question and answer period was held. The Moderator for the entire session was Dr. Edward Campbell of Cape Girardeau, Chairman, Public and Professional Relations Committee of the Missouri Academy of General Practice. Forty-two members of the senior class were present. Others were unable to attend because of preceptorship programs and other training requirements.

The Committee feels that the preceptorship training program at the University of Missouri Medical School has good possibilities. It is hoped that as time goes on a higher percentage of the senior class at the Medical School will choose this six weeks' training period. Some of the members of this Committee have served as preceptors and have indicated their pleasure in having this privilege. This Committee has offered its cooperation to Dr. Vernon Wilson, Dean, University of Missouri Medical School, in the further promotion and development of the preceptorship program.

The Committee is pleased to note that the Missouri State Medical Foundation is helping a large number of worthy Missouri medical students to complete their medical school education. The Committee further feels that this Foundation serves a big need and it is hoped that additional support may be found for its loan program.

B. J. BASS, Chairman,
ROBERT E. TRIBBLE,
JAMES H. SWEIGER,
K. S. LATHAM,
HAROLD F. HOELSCHER,
JAMES E. CAMPBELL,
CHARLES A. WORLEY,
FRED L. WOMMACK.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on American Medical Education Foundation, James P. Murphy, M.D., St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON AMERICAN MEDICAL EDUCATION FOUNDATION

The Committee on the American Medical Educational Foundation did not meet during the past year because of new fund-raising procedures initiated by the AMA, effective January 1, 1962, following the merger of the AMEF program with that of the American Medical Research Foundation. The solicitation of donations from Missouri physicians for medical education is now being handled directly by the AMA-ERF. Total contributions to the AMA-ERF by members of the MSMA for medical education purposes during the period of January through December, 1962, were $15,345.32, including $12,982.15 from physicians and $2,363.17 from Woman's Auxiliaries.

Since the solicitation for AMA-ERF is now primarily a nationally coordinated effort, we feel there is no longer a need for a special State Association fund-raising campaign in behalf of medical education. At the same time, solicitations for the Association's own medical student loan fund are being excellently carried out through the Missouri State Medical Foundation. We therefore recommend that the Special Committee for AMEF be abolished.

JAMES P. MURPHY, Chairman,
C. STUART EXON,
WILLIAM T. MCNEW,
RUSSELL D. SHELDEN,
ALLEN I. HERMAN,
E. W. ALLEN.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Medical Economics, G. W. Winn, M.D., Boonville, Chairman, follows:

REPORT OF THE COMMITTEE ON MEDICAL ECONOMICS

The Committee on Medical Economics has not met since the last session of the House of Delegates and has no formal report.

Dr. G. W. Winn, Boonville, Chairman of the Committee, appeared before the Special Interim Committee of the Missouri Legislature to Study Health Care of the Aged on April 17, 1962. Dr. Winn stated the Missouri State Medical Association favors full implementation of the Kerr-Mills program as the basic answer to the problem of financing health care for the elderly citizens of Missouri, and recommended the following program:

1. Broadening hospitalization benefits for the elderly to cover illnesses that are not necessarily emergencies but in which the patient would benefit substantially. Hospitalization is now restricted to "life-endangering situations."
2. Extending the present hospitalization benefit period from the present 14 days a year to perhaps 21 days.
3. Increasing the present $100 monthly payments to indigent persons over 65 who are completely bedfast and totally disabled. The payment is entirely inadequate for this type of case.
4. Liberalizing provisions relating to the totally disabled to include persons who do not meet the present requirements, but who are "substantially bedfast and unable to care adequately for themselves."

G. W. WINN, Chairman,
JOHN R. FORGRAVE,
BYRON E. WATTS,

MARTIN P. HUNTER,
RICHARD L. STERKEL,
KENNETH E. KNABB,
E. T. HANSBROUGH,
RAE W. FROELICH,
CHESTER L. CLARK.

The Speaker referred this report to the Reference Committee on Miscellaneous Affairs.

The report of the Committee on Corporate Practice, Kenneth C. Hollweg, M.D., Kansas City, Chairman, follows:

REPORT OF THE COMMITTEE ON CORPORATE PRACTICE

Since the Special Committee on Corporate Practice's study of professional associations has held particular interest for the House of Delegates over the last several years, the special attention of Delegates is invited to the report of the committee in the minutes of the Council for December 8 and 9, 1962, on page 30 of the printed "Report of the Council" booklet.

KENNETH C. HOLLWEG, Chairman,
DONALD M. DOWELL,
DONALD H. GIESLER,
ROBERT H. LUND,
J. H. SUMMERS,
ROBERT W. KELLEY,
JOHN P. FERGUSON JR.,
RAY D. WILLIAMS,
HECTOR W. BENOIT JR.

The Speaker referred this report to the Reference Committee on Miscellaneous Affairs.

The report of the Committee on Medical Education and Hospitals, William A. Knight Jr., M.D., St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

The Committee met January 27, 1963, at Hotel Chase, St. Louis, with William A. Knight Jr., M.D., St. Louis, Chairman, presiding. Those present were Drs. Knight, Ralph Perry, Kansas City; Vernon E. Wilson, Columbia; Guy N. Magness, St. Louis; and Messrs. Vincent Sanders, Jordan Singleton, T. R. O'Brien and Tom P. Fox, St. Louis.

The Council of MSMA has requested this Committee's suggestions considering the special report on "Compensation of Interns and Residents" submitted to the AMA House of Delegates at its Interim Session in Los Angeles, November 25-28, 1962, appearing on page 459, *JAMA,* October 27, 1963. This special report was considered by the reference committee on Medical Education and Hospitals of the House as a progress report with more definitive action to be taken at the AMA meeting in June of 1963.

Following discussion, it was agreed that the Chairman and Executive Secretary should prepare a questionnaire for distribution to hospitals in Missouri which conduct Intern and Resident programs. This questionnaire will request information regarding salary and maintenance compensation for interns and residents in Missouri. In addition, all county medical societies will be asked to send their ideas about this matter to the Committee.

Note: The questionnaire mentioned in the minutes of the Committee's meeting has been prepared and distributed to county medical societies and training hospitals throughout the state. The Committee hopes to receive sufficient replies by the time of the MSMA Annual Session to permit a supplementary report to the House of Delegates at that time. Meanwhile, we urge all delegates to study the special AMA report on "Compensation of Interns and Residents." A copy is included here for your convenience.

WILLIAM A. KNIGHT JR., Chairman,
JOSEPH C. PEDEN JR.,
VERNON E. WILSON,
RALPH PERRY,
KENNETH GLOVER,
HENRY C. BAUMAN.

The Speaker referred this report to the Reference Committee on Medical Education and Public Welfare.

The report of the Committee on Public Service, Byron M. Stuart, M.D., Boonville, Chairman, follows:

REPORT OF THE COMMITTEE ON PUBLIC SERVICE

In line with the determination of last year's House of Delegates, the Committee on Public Service has now the central and consolidated responsibility for the internal and public relations aspects of the entire range of association activities, with particular concern for the adequacy of programs and the effectiveness of related communications. It is a chief function of the committee to survey the functioning of the Association's public relations agency as what has come to amount to an integral element of the MSMA staff, providing as required the services of four or more of its client-service personnel in addition to administrative, stenographic and clerical services.

Drs. Maher, Growdon and Wray converse.

The present relationship with the agency provides for a budgeted (1963) annual service fee of $16,800 for the complete provision of its staff service. All related expenses of overhead, taxes, insurance, pensions and the like are the responsibility of the agency itself. A detailed account of other costs directly chargeable to activities under the Committee's jurisdiction is contained in the report of expenditures at the end of this report. It is to be borne in mind that these costs were formerly spread among the old committees on Public Service, Public Relations and Public Education, and Health and Public Instruction.

A general report detailing the broad area of Public Service Committee concern is contained in the printed "Report of the Council" booklet as part of the minutes of the Council meeting of December 8 and 9, 1962, and will be found on page 35 of that booklet.

The Committee on Public Service is to have a major planning and strategy meeting with the MSMA committees on Aging and Medical Economics in St. Louis on February 24. Purpose of the meeting will be to lay action plans for fuller implementation of the Kerr-Mills Law in Missouri and to formulate working programs for effective opposition to federal Social Security legislation. A report of this meeting will have been sent to all delegates before the MSMA Annual Session.

EXPENDITURES, 1962

For comprehensive staff service of agency personnel	$21,000.00
Expenses in connection with attendance at hearings of Senate Committee on Aging (Sen. Edward Long)	299.18
Printing—statements for Cason Committee hearings	34.61
Printing—pamphlets for physician's office distribution (Against or For)	157.86
Newspaper advertising—Dr. Annis' Madison Square Garden broadcast	487.98
Printing—advertising solicitation for MISSOURI MEDICINE	506.45
Miscellaneous travel, telephone, etc.	582.29
	$23,068.37

BYRON M. STUART, Chairman,
KENNETH C. HOLLWEG,
DONALD M. DOWELL,
FRED L. WOMMACK,
ARMAND E. BRODEUR.

The Speaker referred this report to the Reference Committee on Miscellaneous Affairs.

The report of the Committee on Redistricting, J. H. Summers, M.D., Lebanon, Chairman, follows:

REPORT OF THE COMMITTEE ON REDISTRICTING

The special Committee on Redistricting, appointed by the President in compliance with a resolution adopted by the 1962 House of Delegates, met on Saturday, January 26, at the Hotel Chase, St. Louis, with all members present.

The Committee discussed the distribution of representation on the Council at great length. After studying all ramifications of the question, the Committee unanimously concluded that there should be no change in the number of Councilors. It is our feeling that any numerical increase would make the Council too large to function effectively. Therefore, the Committee does not recommend any major change in the composition of the Council.

The Committee to Study Redistricting met during the year.

The Committee does recommend to the House of Delegates that all local societies be polled during the coming year to determine their wishes with regard to hyphenation, changes in hyphenation affiliations and changes in Councilor districts. We further recommend that another special Committee on Redistricting be appointed to study the results of such a poll and to make such recommendations as seem warranted to the 1964 House of Delegates.

J. H. SUMMERS, Chairman,
BEN M. BULL,
DON C. WEIR,
RALPH PERRY,
CHESTER CLARK.

The Speaker referred this report to the Reference Committee on Amendments to the Constitution and By-Laws.

The Speaker referred the following information concerning osteopathic licensing in Missouri to the Reference Committee on Resolutions.

OSTEOPATHIC LICENSURE

The following information on Osteopathic licensure is presented as being of interest to delegates:

I. The 1962 MSMA House of Delegates adopted the following resolution:

WHEREAS, Osteopathic physicians provide the only medical service available in many communities and in the interest of complete care of the patient require consultation with competent physicians, and

WHEREAS, In some tax supported institutions the relationship between Osteopathic and M.D. physicians is such as to compel consultation, and

WHEREAS, Fund raising campaigns for improvement and building of hospitals are often jeopardized where Osteopaths represent a large segment of dispensers of medical services in the community, and

WHEREAS, Certain diagnostic services provided by government agencies now and in the future must be maintained solely for Osteopathic physicians because they are denied consultation services with M.D. physicians, and

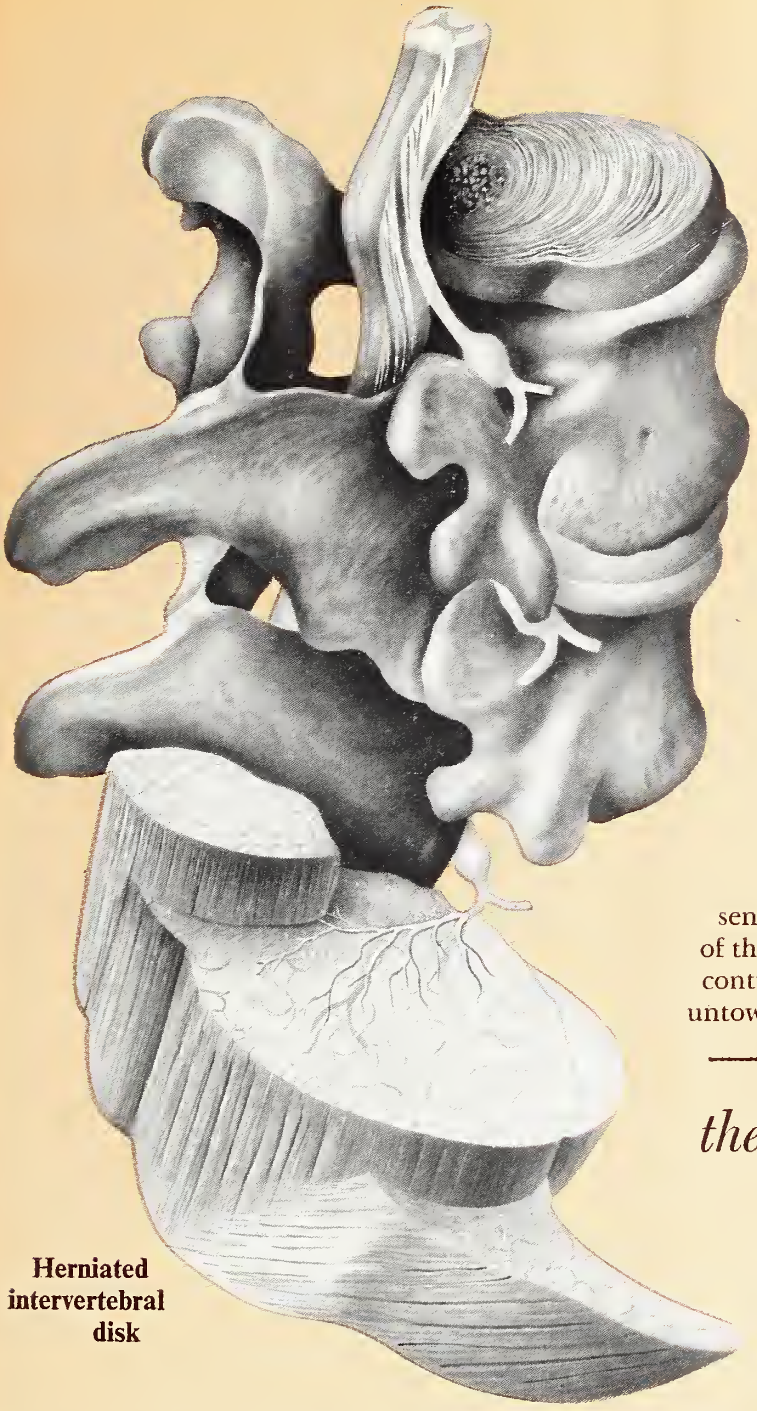
WHEREAS, Certain highly specialized medical services are not now available to the patients of Osteopathic physicians causing the quality of medical care in large segments of Missouri to remain at less than a satisfactory level, and

WHEREAS, Prepaid third party indemnity and service plans already permit Osteopaths to participate, and

WHEREAS, Osteopathic physicians cannot in good conscience be denied diagnostic, medical and educational facilities supported by voluntary organizations and public funds, and

WHEREAS, The single licensure law in Missouri is in effect acceptance of the fact that Osteopathy is for practical purposes now regarded as having a scientific basis rather than being classified as a cult, now therefore be it

Resolved, That in order to elevate the quality of medical care in Missouri any and all consultation between Osteopathic and M.D. physicians be considered ethical according to the ruling of the Judicial Council of the AMA adopted at the June 1961 meeting.



When pain is prominently associated with skeletal muscle spasm, Robaxisal effectively combats both pain and spasm. If sedation is also indicated, prescribe Robaxisal-PH.

Side effects, such as lightheadedness, slight drowsiness, dizziness, and nausea may occur rarely in patients with intolerance to drugs, but they usually disappear on reduction of dosage.

Contraindicated for patients hypersensitive to aspirin or other components of the formulations. There are no specific contraindications to methocarbamol, and untoward reactions are not to be expected.

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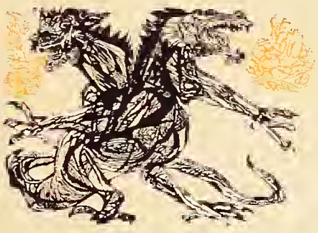
the patient had

'pain &

*spasm'**



*Skeletal muscle spasm is a two-headed dragon of 'PAIN & SPASM'

ROBAXISAL®

Robins

Each pink-and-white laminated Robaxisal tablet contains:
Robaxin (methocarbamol, Robins) ....400 mg. Aspirin (5 gr.) ....325 mg.
U.S. Pat. No. 2770649

ROBAXISAL®-PH

Each green-and-white laminated Robaxisal-PH tablet contains:

Robaxin (methocarbamol, Robins)	400 mg.	Phenacetin (1½ gr.)	97 mg.	Hyoscyamine sulfate	0.016 mg.
		Aspirin (1¼ gr.)	81 mg.	Phenobarbital (⅛ gr.)	8.1 mg.

(Warning: May be habit-forming)

A. H. ROBINS CO., INC., Richmond 20, Virginia

II. At the Clinical Meeting of the American Medical Association held in Los Angeles November 25-28, 1962, the Council on Medical Education and Hospitals published and distributed the following explanatory statement concerning the accreditation of the California College of Medicine:

"Accreditation of medical schools is a function of the American Medical Association through its Council on Medical Education and Hospitals and the Association of American Medical Colleges through its Executive Council. Neither of these organizations have of themselves any legal authority and their functions are inherently voluntary. Any legal status which has accrued to the accreditation of medical schools is the sole and direct result of action by duly constituted legislative bodies.

"Many inquiries have been received which indicates that there exists confusion regarding the relationships of: (1) the unification agreement between the California Medical Association and the California Osteopathic Association, (2) the issuance of M.D. degrees by the California College of Medicine, and (3) the accreditation of the California College of Medicine.

"The Council on Medical Education and Hospitals of the American Medical Association and the Executive Council of the Association of American Medical Colleges have been responsible parties only to the accreditation of the California College of Medicine. The two Councils granted that College an accredited status on February 15, 1962, based on the same procedures and policies which govern their continuing accreditation program of all medical schools in the United States and Canada. Important among those policies is that the accreditation action may not be retroactive. Therefore, it will affect only those graduates of the California College of Medicine who were or are regularly enrolled in that institution as of or subsequent to the date of its accreditation.

"The implications of this action insofar as it involves the legal privilege for medical practice in various states will be determined solely by the statutes and regulations of the states themselves."

III. At the December 8-9, 1962, meeting of the MSMA Council, Dr. William Perry, in a report of the Board of Healing Arts, reviewed the granting of M.D. degrees by the California College of Medicine as this practice concerns the MSMA. He said that about 2,600 individuals had been granted M.D. degrees through the change of the California College of Osteopathy to the California College of Medicine. They were of four groups—the faculty of the college, graduates practicing in California, men practicing in other states who had graduated from the school, plus all Osteopaths, irrespective of school of graduation, who held California licenses to practice as Osteopathic physicians. Dr. Perry said that, at that time, the Missouri Board had received 358 inquiries from men who were granted M.D. degrees by the California College of Medicine because they held licenses to practice Osteopathy in California. He emphasized that none of these people would be given licensure as an M.D. by the Missouri Board until a suit is brought or the Attorney General rules on the matter.

At the February 2-3, 1963, Council meeting, Dr. Perry reported that the Attorney General had ruled that no Osteopathic physician with an M.D. license from California need be licensed in Missouri as an M.D.

The Speaker referred the following material on the Missouri Medical Education Foundation to the Reference Committee on Reports of Officers.

MISSOURI STATE MEDICAL FOUNDATION

The Annual Meeting of the Missouri State Medical Foundation will be held immediately following the Monday session of the House of Delegates of the Missouri State Medical Association on March 25, 1963. All members of MSMA in good standing—who are thereby members of MSMF—are invited to attend the meeting of the Foundation.

Principal business to be transacted at the meeting will be the election of one trustee for a five year term on the Foundation's six member Board of Trustees. The incoming president of the Missouri State Medical Association will also be installed as ex-officio member of the Board.

A meeting of the Board will convene following the Foundation's Annual Meeting for the purpose of electing the President, Vice-President and Secretary-Treasurer for 1963-64. Terms of officers are for one year.

STATUS AS OF FEBRUARY 11, 1963

*Income**

Contributions

Received in grants from Missouri State Medical Association	$75,000.00
Special grant—Edward Mallinckrodt Jr., Foundation—February 6, 1963	5,000.00
Donations from Doctors of Medicine members	4,557.00
Individual gifts from non-medical donors	1,260.00
Donations from county medical societies	200.00
Tribute donations, memorials, etc.	2,895.00
Total Contributions	$88,912.00
Interest received on loans made	44.99
Total Income	$88,956.99

Disbursements

Total loans to date	$84,020.00
(Less) Loans repaid to Fund	(1,000.00)
Loans Outstanding	83,020.00
Balance on hand, February 11, 1963	$ 5,936.99

* Figures do not include income from 1963 MSMA assessments voted for the Foundation.

Loan Recapitulation

Total number of loans granted	181
Number of different students receiving loans	81
Students receiving more than one loan	55
Students receiving one loan	26

Medical School	*Number of Students Granted Loans*
Missouri University	62
St. Louis University	13
Washington University	2
Tulane University	1
Albert Einstein University	1
Meharry University	1
Baylor University	1
	81

The following joint report of the Committees on Public Service, Medical Economics and Aging was referred by the Speaker to the Reference Committee on Miscellaneous Affairs.

REPORT OF THE COMMITTEES ON PUBLIC SERVICE, MEDICAL ECONOMICS AND AGING

The Joint Meeting was held February 24, 1963, at the Chase Hotel, St. Louis, with Byron Stuart, M.D., Boonville, Chairman, Public Service Committee, presiding. Those present were Drs. Stuart, George Winn, Boonville; Robert Kingsland, Clayton; John Griffith, Martin Hunter, Kansas City; Rolla Wray, Nevada; John Forgrave, St. Joseph; Byron Watts, Jefferson City; Fred Wommack, Crane; Stanley Peterson, Springfield; and Messrs. Lemoine Skinner Jr., Jordan Singleton, Vince Sanders, Tom Fox, Ray McIntyre, Tom O'Brien, and Miss Peggy Heilig, St. Louis.

Dr. Robbins addressed the scientific session.

The joint meeting of the Committees was held to plan programs of action in support of further implementation of the Kerr-Mills Act by the Missouri Legislature and in opposition to the new King-Anderson bill.

Mr. O'Brien reported that bills to further implement Kerr-Mills had been introduced in the Missouri Senate and House. He said that they probably will not be considered until the legislature takes action on the governor's request for a sales tax increase. Although the legislature has been advised by budget authorities that state expenditures must be reduced unless new tax revenues are forthcoming, there is no certainty that a tax increase will be approved. If the legislature does vote an increase in taxes, a number of programs and projects will be competing for the new funds. Besides the proposed increase in the Kerr-Mills program, which will cost the state approximately $5,000,000 for the biennium, proposals for highway, mental health, public education and junior college programs would all cost additional state money.

After discussion of a program to activate the county societies and MSMA membership in support of the Kerr-Mills proposals, it was moved by Dr. Wray, seconded by Dr. Forgrave and passed that the Committees, with the help of the MSMA staff, put the attached program into operation. The staff and public relations counsel will furnish the membership and local societies with background information, analysis of the bills and other materials and assistance needed to carry out the approved program.

Opposition to the new King-Anderson bill was discussed. Mr. O'Brien emphasized the fact that the medical profession cannot become complacent even though the bill may not be immediately considered by Congress. He urged the Committees to continue their fight against this legislation and also to keep other doctors and opponents of King-Anderson active in this effort. Dr. Forgrave moved that the Committees adopt the attached program of action in opposition to King-Anderson. The motion was seconded by Dr. Hunter and passed. The MSMA staff and public relations counsel will again provide the Committees with background information, analysis of the proposed legislation and other materials called for by the program.

Dr. Watts expressed the opinion that arguments other than that of pointing out the deficiencies of proposed federal medical care legislation should be used in fighting the King-Anderson legislation. He moved that the MSMA office forward the Committees' suggestions for more effective arguments to the AMA. The motion was seconded by Dr. Wray and passed.

It was voted that the Public Service Committee introduce the attached resolution opposing the King-Anderson bill at the 1963 Annual Session.

The following resolution regarding King Anderson legislation was referred by the Speaker to the Committee on Resolutions.

WHEREAS, Proposals for compulsory health care programs using the Social Security system for taxation and provision of benefits have again been introduced in the Congress of the United States as H.R. 3920 and S. 880 and,

WHEREAS, The adoption of such programs for one group of our population—persons 65 years of age and over—would be only the first step toward bringing all citizens under a Federally controlled and administered system of socialized medicine, and,

WHEREAS, These programs would not allow the physician to make medical judgments without the interference of government agencies and officials, and would take ultimate responsibility for health care away from the private physician and put it in the hands of persons without medical training or experience, and,

WHEREAS, Health care costs would increase and the quality of that care would inevitably deteriorate under such circumstances, and,

WHEREAS, Voluntary private methods for the financing of health care costs now in existence, or under development, have proven their ability to solve the problems of providing for the expense of health services for the nation's population, including the elderly, and are in harmony with our nation's heritage of individual choice and responsibility, and,

WHEREAS, Compulsory, federally controlled programs are alien to that heritage and would destroy the traditional physician-patient relationship, therefore be it

Resolved, That the physicians of Missouri, through the House of Delegates of the Missouri State Medical Association, hereby again reaffirm their opposition to compulsory health care programs for the aged or any other groups of the population provided and administered under the Federal Social Security system, and be it further

Resolved, That copies of this resolution be forwarded to the President of the United States and to members of the Congress from the State of Missouri.

The report of the Council, Leonard T. Furlow, M.D., St. Louis, Chairman, follows:

THE COUNCIL

Meeting of March 21, 1962

The Council met at 12:00 noon, March 21, at Hotel Chase, St. Louis, with Donald M. Dowell, M.D., Chillicothe, President, presiding. Those present were Drs. Dowell; Joseph L. Fisher, St. Joseph; A. P. Rowlette, Moberly; Leonard T. Furlow, St. Louis; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; O. B. Barger, Harrisonville; E. A. Stricker, St. James; Doyle C. McCraw, Bolivar; W. D. English, Cardwell; Kenneth C. Hollweg, Kansas City; Hector W. Benoit Jr., Kansas City; Ralph Perry, Kansas City; Messrs. Jordan Singleton, Gene Lunn, Tom P. Fox, Ray McIntyre, T. R. O'Brien, and Helen Penn, St. Louis.

Dr. Dowell introduced Dr. Benoit, the new Councilor from the Seventh District.

ELECTION OF OFFICERS

Dr. Stuart nominated Dr. Furlow for Chairman of the Council. Motion by Dr. Whitener that nominations be closed and that Dr. Furlow be unanimously elected, being duly seconded, was passed.

Dr. Furlow presided at the remainder of the meeting.

Dr. Stuart, on motion of Dr. Stricker, duly seconded, was elected Vice Chairman of the Council.

On motion of Dr. Stuart, duly seconded, Dr. John I. Matthews, Jefferson City, was elected Secretary.

On motion of Dr. Whitener, duly seconded, Dr. Charles R. Doyle, St. Louis, was elected Treasurer.

NEXT MEETING

It was decided that the next meeting of the Council would be held May 26 and 27 in St. Louis.

INTERPROFESSIONAL CODE

Mr. O'Brien said that the law profession has recently published a brochure and were interested in the combined brochure by the law and medical professions. The cost was estimated at $350.00. On motion of Dr. Hollweg, duly seconded, this was approved.

HEALTH RESOURCES SURVEY

The Health Resources survey by the Woman's Auxiliary was discussed. It was announced that survey had been completed in 36 counties, and that the Auxiliary had suggested that an outside agency complete the work. No action was taken. It was suggested that the Woman's Auxiliary and the individual county auxiliaries that had completed the survey be complimented and thanked for their work.

CORPORATE PRACTICE

On motion of Dr. Furlow, duly seconded, it was voted to ask the Committee on Corporate Practice to restudy its work in view of the opinion handed down by the Attorney General on March 15.

Meeting of May 26-27, 1962

The Council met at Hotel Chase, St. Louis, May 26, 27, 1962, with Leonard T. Furlow, M.D., St. Louis, Chairman, presiding. Those present were Drs. Furlow, Joseph L. Fisher, St. Joseph; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; O. B. Barger, Harrisonville; Hector Benoit, Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Kenneth C. Hollweg, Kansas City; Donald M. Dowell, Chillicothe; Messrs. John Buckner, Springfield; Hollister Smith, Edgar Mothershead, Jordan Singleton, Lemoine Skinner, Gene Lunn, Tom Fox, Ray McIntyre, T. R. O'Brien, and Helen Penn, St. Louis. Attending part of the meeting were Drs. John I. Matthews, Jefferson City; Vernon E. Wilson, Columbia; H. M. Hardwicke, Jefferson City; Stanley S. Peterson, Springfield; Eugene F. Tucker, Charles R. Doyle, Henry Allen, Joseph V. Finnegan, St. Louis; James A. Kinder, Cape Girardeau, and Mr. Frank Woolley, Chicago.

ADVERTISING

A plan to solicit additional direct advertising for Missouri Medicine was presented and a list of prospects was shown. The estimated cost to reach 5,000 potential advertisers will not exceed the $1,500 budgeted for this purpose.

MATERNAL WELFARE COMMITTEE

A request from the Maternal Welfare Committee for $100, a one time grant, to reactivate their maternal death studies in the eastern part of the state, on motion of Dr. Barger, duly seconded, was approved. Other expenses of the eastern and western sections are payable when requested by the respective chairmen up to the amount previously authorized for this purpose.

1964 SESSION

Possible dates for the 1964 Annual Session to be held in St. Louis were discussed and on motion of Dr. Stuart, duly seconded, this was left to Dr. Furlow and Mr. O'Brien to determine.

FIELD SECRETARY REPORT

Mr. McIntyre reported on recent events: A meeting of the Lincoln-St. Charles County Medical Society; his talk to the class on hospital administration at Washington University; 10th Councilor District meeting at Poplar Bluff with Butler-Ripley-Wayne Society; meeting of the Committee on Infant and Child Care with the Division of Health; St. Louis Medical Society forum on medical care for the aged; Spring Conference at University of Missouri; conference in Columbia on the Handicapped, promoted by the Missouri Health Council and Missouri University Medical School and School of Education; Missouri Public Health Association annual meeting; meeting at Whiteman Air Force Base; AMA Rural regional health conference in Des Moines; meeting of the Missouri Academy of General Practice, Southeast Missouri chapter, at Cape Girardeau; meeting of the Committee on Control of Venereal Disease. He reported that the senior medical students at the University of Missouri Medical School were entertained at lunch and a panel on medical practice during the Spring Conference in Columbia.

The luncheon meeting was sponsored by MSMA Rural Health Committee in cooperation with the Public and Professional Relations Committee of the Missouri Academy of General Practice. Jack Bass, M.D., Salem, spoke on "Solo Practice," Charles Worley, M.D., Sweet Springs, on "Partnership Practice," A. E. Spelman, M.D., Smithville, on "Group Practice," Donald Dowell, M.D., President, MSMA, on "Medical Organization," and Roy Pearse, M.D., President, Missouri Academy of General Practice, on "The Academy of G.P." Edward Campbell, M.D., Cape Girardeau, served as master of ceremonies. He stated that of 63 graduates of the school this year, 20 were interning in Missouri.

CORPORATE PRACTICE

The following report of the Committee on Corporate Practice was presented and on motion of Dr. Fisher, duly seconded, it was accepted and the committee was asked to continue study.

Special Committee on Corporate Practice
Hotel Chase, St. Louis
April 8, 1962

Presiding: Kenneth C. Hollweg, M.D., Kansas City, Chairman.

Present: Drs. Hollweg; Donald M. Dowell, Chillicothe; John P. Ferguson, Springfield; Robert Kelley, St. Louis; Donald Ciesler, Osceola; Ray Williams, St. Louis; Robert H. Lund, Clayton; J. H. Summers, Lebanon; Leonard T. Furlow, St. Louis; G. W. Winn, Boonville; Messrs. John W. Noble, Kennett; William Boles, St. Louis; Jordan Singleton, Lemoine Skinner, Tom P. Fox and T. R. O'Brien, St. Louis; Helen Penn, St. Louis.

Purpose: It was pointed out that the House of Delegates had suggested further study of corporate practice, especially in view of the March 15, 1962 opinion from the office of the Attorney General which in effect said that corporate practice was legal. The opinion is based on two court cases which were decided by the Missouri Supreme Court, the Lewin case and the Gate City Optical Company case. The opinion in full was read and copies were made available to the Committee.

Courses Open: It was suggested that three courses of action might be available:

1. If opinion is considered to be wrong, efforts might be made to bring a case to the courts in order to secure a different decision from the Missouri Supreme Court.

2. If opinion is considered to be right, the present licensing laws could be changed to include wording relating to physicians who are members of corporate groups, or By-Laws of MSMA regarding ethical standards might be changed to include appropriate wording.

3. Create by legislation an association type act similar to those enacted by other states.

Action: On motion of Dr. Williams, duly seconded, it was agreed that study should be continued, that the committee at this time favors incorporation under the general business incorporation laws of Missouri, with the proviso that changes should be incorporated into the present medical practice act to obtain necessary ethical safeguards, and that legal studies be made and when completed should be made available to the Committee. Also, it was agreed that this report should be considered as an Interim Report.

CIVIL DEFENSE

The following report of the Committee on Civil Defense was presented and on motion, duly seconded, was accepted.

Committee on Civil Defense Disaster Medical Care
Missouri Hotel, Jefferson City
May 6, 1962

Presiding: Carl D. Siegel, M.D., Sedalia, Chairman.

Present: Drs. Siegel; J. S. Sanders, Jefferson City; Ned White, Springfield; B. A. Moranville, Columbia; Mr. Thomas P. Fox, St. Louis.

Absent: Drs. G. L. Watkins, Farmington; C. P. Hungate, Kansas City; J. L. Mothershead, St. Joseph; O. P. Hampton, University City; George E. Thoma, St. Louis; Curtis H. Lohr, Clayton; John Walterscheid, Hannibal; H. D. Steinbeck, Union; M. P. Leech, Fayette; C. R. McAdam, St. Louis; R. C. Elliott, Kansas City; Merrill Roller, Hannibal; C. M. Nunnelly, Cape Girardeau; R. W. Kieber, St. Joseph; Foster Whitten, Carthage; David Hall, Springfield; C. M. Waggoner, Columbia; F. D. Alexander, St. Louis; Mr. Ken Mayfield, Jefferson City.

Self-Help Approval: Dr. Siegel reported the action taken by House of Delegates at 1962 Annual Session (March 18-21) approving the Medical Self-Help Program recommended by the Committee, as designed by U. S. Public Health Service in cooperation with American Medical Association. Letter reported such action sent March 23, 1962, by Dr. Siegel to Missouri Division of Health.

Responsibility: Chairman reported on action of Council, December 3, 1961 after consideration of recommended action by the Committee, November 19, 1961. In lieu of Missouri Physicians assuming the responsibility of medical care in natural or wartime disasters, the Council requested the committee to work with Dr. Hardwicke to develop a program of medical care aspects for presentation to the Council.

The Council considered a report made to it.

Self-Help Kits: Dr. Siegel reported on development to date of Self-Help Training Kit program. Under direction of Medical Doctors and Doctors of Osteopathy, the kits are being distributed upon request—laymen should be encouraged to ask for the kits, and for training program.

Missouri State Civil Defense Activities: Dr. Siegel reported on speaking engagements, past and future, including: Springfield, Boone County Medical Society, Pettis County, Bolivar, Missouri Osteopaths in Kirksville, St. Louis Medical Society. Audience includes professionals and laymen—explaining in particular the Self-Help program. Dr. Siegel is assisted by Mr. Kenneth Mayfield and Mr. Hill on Dr. Hardwicke's staff. Announcement made of Kansas City Program, May 12.

Program Coordination: Attention was called to importance of coordination of all medical civil defense activities with Governor's Advisory Committee and Divisions, to avoid conflicts of major exercises.

Civil Defense Emergency Hospitals: Discussed Civil Defense Emergency Hospitals in Missouri—69 prepositioned and three additional used for training and for exhibition. Reference was made to a) value, b) personnel to man, c) displacement, d) storage, e) color coding in future to identify departments, f) future geographic relocation, g) plans for exhibit at Missouri University, h) current plans are to set up C.D.E.H. on existing hospital premises, enlisting personnel of existing hospital.

Battle Creek, Dr. Sanders: Dr. Sanders reported on meeting in Battle Creek, December 4-7, 1961. Suggested that local county medical society be informed of program plans to enable physicians to direct program and provide qualified teachers—e.g. nurses. In addressing audiences, it was noted consistently more women are present than men.

Liability in Training: Dr. Siegel inquired in Battle Creek, December 4, regarding mal-practice liability possible in training of laymen for civil defense work. Copy of Civil Defense Act does not include such regulation. Dr. Siegel will discuss further with Dr. Hardwicke and Mr. Lupke, the possibility of proper legislation in 1963.

Seminar, April 19, 1962, Missouri University: Chairman reported on Civil Defense Seminar at Missouri University, April 19, 1962.

a) Shelters—use of domestic facilities when community shelters are not available—rate of dissipation of fall out.

b) Immunization prior to disaster—example discussed included typhoid and tetanus—duration of protection—children in particular.

c) Public panic and apathy—military and natural disasters, were discussed. Dr. Siegel referred to reaction of public to installation of military bases nearby—range of attitude from resentment to sincere gratitude—need for education of civilian population.

d) Manpower Inventory—discussion included upgrading in emergencies, e.g. Veterinary personnel and facilities.

e) Pharmacy Inventory—Nebraska cited as good example of stock-piling, also working with wholesale distributor.

Holifield Hearings: Chairman will consult further with Mr. Lupke regarding procurement of copies of Holifield Hearings.

Hospitals as Shelters: Following a discussion, it was agreed that hospitals would not be a good choice of location for public disaster shelters.

Self-Help Kits—Lessons and handbooks: Relying to inquiry, Dr. Siegel asks that the twelve lesson manuals and corresponding handbooks, be returned to Dr. Siegel in care of Division of Health, Jefferson City, Missouri. Please, after reviewing, write suggested corrections, identifying by page number.

New Publication: New publication, "Civil Defense in the Soviet Union" by Leon Gauré, University of California Press. Price: $2.45.

Next meeting: Next regular meeting—late November or early December.

Adjournment: 3:00 p.m. (C.S.T.).

MENTAL HOSPITALS

A letter from Dr. George Ulett asking the opinion of the Council concerning the use of osteopathic students in mental institutions was read. After discussion bringing out that more study was necessary, on motion of Dr. Fisher, duly seconded, it was voted to thank Dr. Ulett for coming to the Council with this question and to refer the matter to the Committee on Mental Health.

ANSWER TO HOUSE RESOLUTION

Referring to the resolutions presented to the House of Delegates by Dr. Edwards of St. Louis asking for more specific information on expenditures and the reference committee report suggesting that these be set out, the material was presented for inclusion in the July issue of MISSOURI MEDICINE. It was suggested that the work of the various committees be more definitely designated and on motion of Dr. Fisher, duly seconded, it was approved with these changes to be made.

M.H.A.

Dr. Hollweg reported on a liaison committee meeting with the Missouri Hospital Association on May 24, which he said was most satisfactory and that further meetings are scheduled. Representatives of Missouri Hospital Association present were: Mr. William Gnadt, Bonne Terre, President M.H.A.; Mr. John Warner, St. Louis, President Elect M.H.A.; Mr. Keyton Nixon, Mexico and Mr. Ted Lloyd, Executive Secretary M.H.A. Representatives of MSMA were Donald M. Dowell, Kenneth C. Hollweg, Leonard Furlow and members of the staff.

RESOURCES SURVEY

In compliance with the wish of the Council expressed at its last meeting, certificates of appreciation to officers of the Woman's Auxiliary and to County Auxiliaries which had completed surveys were shown and it was announced that these would be sent out right away.

MEDICOLEGAL EXAMINERS

Dr. Tucker presented a proposed legislative act to establish a Board of Medicolegal Examiners, with two corrections: Delete the last nine lines of Section 8; add the word "chief" before "associate or assistant state medicolegal examiner" in Section 9. On motion of Dr. Whitener, duly seconded, it was voted that the act as amended, be approved and that the Missouri Bar Association be contacted for endorsement and possible sponsorship.

GOOD SAMARITAN LAW

The possibility of passage in Missouri, and feasibility of a Good Samaritan Law was discussed. It was pointed out that one component society was especially interested in it. After discussion, in which it was brought out that there is a possibility that it would be unconstitutional in Missouri, on motion of Dr. Hollweg, duly seconded, it was decided that any such action be deferred and the component society be told of the reasons.

KERR-MILLS

Mr. O'Brien reported that the Interim Committee of the Legislature studying the medical care aspects of aging had held five meetings, and that the Association representatives, G. Warren Winn, Chairman, Committee on Medical Economics, and Stanley S. Peterson, Chairman, Committee on Aging, appeared at one hearing, April 17, and presented statements. It was reported that that committee expects to have its report complete in October and have legislation ready to introduce in the 1963 Legislature.

DR. RIES CANDIDACY

Dr. Furlow said that Dr. Douglas A. Ries, Richmond Heights, had telephoned him and also sent him a statement that he would run on the Republican ticket for the United States Senate this fall. On motion of Dr. Fisher, duly seconded, it was agreed to tell Dr. Ries that the Council agreed with his philosophy but that the Association could not sponsor candidates and that his statement would be referred to MMPAC.

MR. WOOLLEY

Mr. Woolley of the AMA gave a brief description of the situation on the King-Anderson bill, pointing out that the longer it can be retained in the Ways and Means

Committee the better is the chance of it not passing in this session. He pointed out that if it did not pass in this session, that more support was going to be needed in the next Congress to keep it from passing then. He complimented Missouri on the work that had been done.

1963 ANNUAL SESSION

Dr. Matthews gave a general outline of the scientific program planned for the 1963 Annual Session, including some speakers that would be invited. He asked that the Committee be relieved of planning the social functions. The Council asked that staff members make suggestions relative to these functions. A letter from the Greene County Medical Society congratulating Dr. Matthews on the 1962 scientific program was read by Mr. O'Brien.

RESOLUTION ON COUNCIL ON MEDICAL EDUCATION

Dr. Benoit presented the resolution adopted by the House of Delegates concerning the personnel on the Council on Medical Education of the AMA being composed of six practicing physicians and four faculty members. Following discussion, on motion of Dr. Hollweg, duly seconded, it was voted that it be presented to the AMA. Dr. Benoit requested that copies go to the College of American Pathology, Society of Clinical Pathologists, the College of Radiology and the American Society of Internal Medicine.

TELEPHONE LISTING

Dr. Benoit presented a letter from the AMA stating that the Jackson County Medical Society should change the present AMA listing in their telephone directory. It was pointed out that this has been discussed with legal counsel of AMA in Chicago on May 19. Negotiations are in process.

K. C. GENERAL HOSPITAL

At the request of Dr. Benoit, Dr. Wilson told of some of the preliminary plans of the University of Missouri School of Medicine cooperating with a Foundation recently formed to operate the Kansas City General Hospital and other medical facilities in Jackson County. Tentative plans for the intern and residency training programs of the Kansas City General Hospital are involved. He said details were far from complete but progressing. He said that the program will make maximum use of a volunteer part time staff but that there would be some key full time personnel. Dr. Wilson said he would be glad to present the completed plan and the contract, when drawn, to the Council.

POLIO VACCINE

Dr. Kinder presented the report of a meeting of the Committee on Infant Care with representatives of the Division of Health, the Missouri Academy of General Practice and the Missouri Academy of Pediatrics. The uses of the Salk and Sabin vaccines were further discussed and on motion, duly seconded, the report was accepted as follows:

Meeting of Infant and Child Care Committee, Missouri
State Medical Association With Representatives of
Missouri Public Health Personnel, Missouri Academy
of General Practice, and Missouri Academy of
Pediatrics, on Polio Vaccine, the Chase Hotel,
St. Louis, Mo., May 6, 1962

At the request of the Missouri Division of Health, a meeting of representatives of the Missouri Academy of General Practice, the Missouri Academy of Pediatrics, the St. Louis County Health Department, the St. Louis City Health Department, the Kansas City Health Department and the Missouri State Medical Association Committee on Infant and Child Care was held at the Chase Hotel, St. Louis, Mo., Sunday, May 6, 1962.

The purpose of the meeting was to formulate some general recommendations for the guidance of physicians, health officers and others in the state of Missouri relative to the use of oral polio vaccine. Certain technical and administrative problems are associated with the use of this vaccine. Some of these are:

1. The problem of preservation of the commercial product and the possible seasonal variation in its effectiveness.

2. Enteric viruses may interfere with the effectiveness of the oral vaccine.

3. People moving from one community to another after immunization with but one type oral vaccine.

Considerable discussion, with participation of all present, took place in relation to Salk vs. the Sabin vaccine. After all had expressed their views the following general recommendations were unanimously adopted by the group:

"Paralytic polio in Missouri and in the nation is at the lowest incidence for many years. This is due in large part to seven years of use of Salk vaccine by injection.

We believe, therefore, that Salk vaccine should continue to be the principal preventive agent used at present, and we urge that all those under age 50 who are as yet unimmunized receive the full course of three injections plus boosters. There is no emergency or urgency at this time for communities or individuals to use the live oral vaccine.

It is therefore *not* recommended that oral polio vaccine be used except in special situations at this time. The use of oral vaccine in these situations, such as an impending epidemic or limited trial programs, should be decided upon by local county medical societies in conjunction with local and state health authorities.

Oral polio vaccine may in the future be of particular value in certain areas where Salk vaccine has not been used adequately, especially if used on a widespread community basis.

In general, use of oral vaccine should be avoided during the summer months since it is less effective then than at other times of the year.

Salk vaccine, therefore, should be emphasized as the main line of defense against polio at this time with continued use of boosters periodically."

The proposed Vaccination Assistance Act now before Congress providing for federal funds for the purchase of vaccines for preschool children and to finance promotional vaccination campaigns was discussed. The consensus of those present was that there was no need in Missouri at present justifying the passage of this bill.

The Missouri Division of Health requested that a small committee from the group assembled representing various organizations present be appointed to advise with the Division from time to time on vaccination problems. This committee will be: James Kinder, M.D., Cape Girardeau; Clement E. Brooke, M.D., Columbia; Roy Pearse Jr., M.D., Nevada.

LABORATORY MEDICINE

A request from the Committee on Laboratory Medicine that a letter go to the Membership including pamphlets concerning lay laboratories was presented. On motion of Dr. Stricker, duly seconded, this was approved.

MSMF

The following report on the Missouri State Medical Foundation was presented. The plans for fund raising and present statistics were discussed. It was pointed out that stationery had been obtained and a brochure was planned, all of which would cost something more than $1,000. On motion of Dr. Hollweg, duly seconded, it was voted that up to $1,500 be appropriated by the association for the initial cost of setting up and getting under way the Foundation fund raising program.

Résumé of the Missouri State Medical Foundation Promotional Campaign

Foreword. The Missouri State Medical Foundation is one of the most appealing and worthwhile public service programs to be developed by Missouri physicians. If the profession is to gain full value from this program, however—both as a substantial student aid program and as an important vehicle to better public relations—plans will need to be initiated soon by the Board of Trustees to insure the long-range growth and development of the Foundation.

Dr. Danis moderated a panel on "Cystic Fibrosis."

The most critical problem we face at the moment—and one which demands immediate attention by the Board—is the need for securing additional loan funds to finance expected applications for the coming school year. At the same time, it is suggested that consideration be given to the development of a continuing, annual fund-raising plan to satisfy MSMF loan requirements in years to come. The $7.50 annual assessment voted by the 1962 House of Delegates will not, of course, be available until 1963, and even so it's not expected to satisfy the anticipated demand for loan funds.

A second area of vital concern is the systematic promotion of MSMF activities—primarily to eligible students and medical school faculties—in order to publicize the Foundation and foster good will for the medical profession. Much of this information phase of MSMF operations should, of course, be delayed until the Foundation has obtained sufficient working capital (through fund-raising drives) to avoid disappointing additional applicants. But we believe it would be wise to formulate a comprehensive information program, now, so that MSMF literature can be prepared, printed and made ready for distribution at the appropriate time.

Fund-Raising Plan

1. Appeal to Physicians
2. Appeal to County Medical Societies
3. Appeal to Non-Medical Donors . . .

—Mail solicitation of potential contributors (under $1,000)

—Personal solicitation of potential contributors (over $1,000)

MSMF Information Program

1. Information to Medical Students . . .

—Loan recipients

—Potential applicants

2. Information to Physicians

—Literature

—Annual report

3. Information to the General Public

TREASURER'S REPORT

Dr. Doyle reported on the finances of the Association for the four month period since the first of the year and also gave a review of receipts and expenditures on the 1962 Annual Session. On motion of Dr. Hollweg, duly seconded, both reports were approved.

NEXT MEETING

Dr. Hollweg invited the Council to hold its September meeting in Kansas City and the dates of September 22 and 23 were set if hotel facilities are available.

DR. FURLOW THANKED

On motion of Dr. Benoit, Dr. Furlow and Mrs. Furlow were thanked for the Saturday evening dinner party.

Meeting of September 29-30, 1962

The Council met at Hotel Muehlebach, Kansas City, September 29, 30, 1962, with Leonard T. Furlow, M.D., St. Louis, Chairman, presiding. Those present were Drs. Furlow; Joseph L. Fisher, St. Joseph; A. P. Rowlette, Moberly; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; O. B. Barger, Harrisonville; Hector W. Benoit, Jr., Kansas City; Doyle C. McGraw, Bolivar; E. A. Stricker, St. James; Donald M. Dowell, Chillicothe; Kenneth C. Hollweg, Kansas City; John I. Matthews, Jefferson City; Vernon E. Wilson, Columbia; H. M. Hardwicke, Jefferson City; Messrs. John W. Noble, Kennett; Gary Schnedler, Springfield; W. H. Bartleson, Frederick S. Mowry, Kansas City; Edgar Mothershead, Gene Lunn, Jordan Singleton, Lemoine Skinner, Hollister Smith, T. R. O'Brien, Thomas P. Fox, Ray McIntyre, St. Louis; Mr. Frank Woolley, Chicago. Attending a part of the meeting were Drs. Joseph V. Finnegan, St. Louis; George W. Forman, St. Joseph; H. E. Petersen, St. Joseph; William D. Perry, St. Louis; D. Elliott O'Reilly, St. Louis; Ralph Perry, Richard H. Kiene, Victor B. Buhler, Gerald L. Miller, William C. Mixson, Kansas City; Senator William J. Cason, Clinton; Mr. John A. Hailey, Jefferson City.

TELEPHONE LISTING

It was reported that the classified telephone listing of physicians in the Kansas City area has been rearranged after consultations between MSMA, Jackson County Medical Society and the American Medical Association.

STATE MEMBERSHIP

It was reported that the county society membership status of physicians living in either Kansas or Missouri and practicing in the other state has been clarified as a result of a meeting between representatives of the Kansas and Missouri State Medical Associations.

AMA LETTER

A letter from the AMA thanking the Council and Staff members for their assistance in opposing the King-Anderson bill was read.

TREASURER'S REPORT

The Treasurer's Report was presented, together with a request that the Treasurer be empowered to convert some of the investments into cash if it becomes necessary before the end of the year. On motion of Dr. Dowell, duly seconded, it was voted to accept the report and to authorize the Treasurer to proceed as requested.

FIELD SECRETARY'S REPORT

Mr. McIntyre reported on a number of special programs held throughout the state since the last meeting of the Council and told of these programs, as a meeting with lawyers, society golf tournaments, programs on athletic injuries. He said that at a meeting of the Missouri Health Council on September 26 it was decided that there would be a state-wide meeting on "Medical Quackery" held at the Governor Hotel, Jefferson City, on April 25, 1963, sponsored by the Health Council.

He reported future meetings including the Kansas City Southwest Clinical Society October 1 to 4; the Southeast Missouri Cancer Conference at Cape Girardeau on October 7; The West Central Medical Society with Congressman Durward Hall as speaker on October 11; the annual assembly of the Missouri Academy of General Practice in St. Louis on November 3 and 4.

PRECEPTEES

Mr. McIntyre reported that only 11 senior medical students at the University of Missouri were taking training with preceptors this year.

DIVISION OF HEALTH

Dr. Hardwicke reported that Dr. Earl Loyd of Jefferson City was now on the part time staff of the Division as a consultant and that the Division is acting as the agency for radiology and health for the state. He discussed the situation on polio immunization and said that probably by the end of November more definite information would be available.

KANSAS CITY GENERAL HOSPITAL

Dr. Wilson reviewed the actions that had preceded the relationship between the Kansas City General Hospital and the University of Missouri School of Medicine. He said that an administrator had been employed who will begin on October 15. He said that teaching would be principally by a voluntary staff. He said that it is hoped that the new arrangement will increase the number of Missouri graduates who receive intern and residency training in Missouri. He said that unofficially a VA hospital is scheduled to be built in Columbia in 1964.

MEDICARE

Mr. O'Brien presented material from the Medicare office requesting that Missouri Medical Service administer the entire program in Missouri rather than using the facilities of the two Blue Shield plans. It was pointed out that the two plans now administer the program in their respective areas on the basis of actual costs per claim. It was suggested that the Medicare office be informed that the two plans should handle Medicare on an actual cost basis, as they are now doing, under two contracts as at present. On motion of Dr. Hollweg, duly seconded, it was voted to recommend this.

The Council held a meeting in Kansas City in September.

SCHOOL IMMUNIZATIONS

Dr. Dowell called attention to the fact that the new law concerning immunization of school children did not cover teachers, bus drivers and other personnel that come in contact with the school child. On motion of Dr. Dowell, duly seconded, it was voted that Dr. Hardwicke confer with the Department of Education and bring back recommendations to the Council.

MENTAL HEALTH

Dr. Forman reported for the Committee on Mental Health as follows:

The Committee on Mental Health met at the Missouri Hotel in Jefferson City on July 1, 1962, Dr. Forman presiding as Chairman.

Resolution.—A resolution introduced in the 1961 House of Delegates by Dr. Reinhardt Dwyer of Clay County and referred by the House to the Committee on Mental Health was discussed. It was pointed out by the former and present chairmen of the Committee that further information on the intent of the resolution had been sought, but had not been received from the author. The Committee expressed its feeling that mental health activities should be carried out by scientific mental health organizations, as called for by the resolution, and that Dr. Dwyer should be so advised.

Osteopathic Students in Mental Hospitals.—A letter from Dr. George A. Ulett, Acting Director of the Division of Mental Diseases, asking the opinion of the Council on the use of osteopathic senior students in the state mental hospitals was read. The Council referred the letter to the Committee on Mental Health. Following discussion the Committee decided that it should approve the request but that every effort should be made toward adequate supervision of the students and that this action not be in lieu of other adequate staff and help; also that an evaluation of the program be submitted to the Committee after a year.

AMA 1961 Conference.—Dr. Haddock gave the following report on the annual conference of mental health representatives of state medical associations held in Chicago on February 2 and 3, 1962.

"This conference was particularly significant in that it was another step in the preparations being made for the first AMA National Congress on Mental Health scheduled for October 4, 5 and 6, 1962, in Chicago. It is planned that this Congress will involve 2,500 participants, both physicians and non-physicians. The Congress will undoubtedly help determine the direction in which programs for the care of the mentally ill will go for many years to come. What committees such as ours do, or fail to do, about selecting the participants in this Congress and about the issues brought up at this Congress will therefore be of lasting importance. There have been three steps in setting the stage for the first Congress.

"The first step was the study of the Joint Commission and its report 'Action for Mental Health.' We have reviewed the obvious stand this report takes for federalization of our public mental hospitals, outright advocacy of independent participation by non-physicians in hospital administration and medical procedures such as psychotherapy, and the almost complete omission from consideration of the tremendous contributions private psychiatric facilities have made and can make to this whole problem. The Board of Trustees of the AMA has already gone on record with the statement that the Joint Commission report 'be considered as the basis for a program which the AMA can endorse and support after the recommendations of the National Conference on Mental Health to be held in 1962 are available.'

"The second step was a preliminary program conference on mental illness and health sponsored by the AMA Council on Mental Health and held in Chicago on September 29 and 30, and October 1, 1961. This was a hand-picked group, and though not as inclined toward federalization and non-medical participation as the Joint Commission, it still failed to take a forthright stand such as our Committee has on these important issues. For the most part it straddled the controversial issues brought up in the Joint Commission report.

"The third and final step was the February 2 and 3, 1962, meeting of the representatives of the State Medical Associations. Unfortunately, this meeting was rather poorly attended. A significant development that occurred the day before the meeting was that Dr. L. Bartemier, chairman of the Council for many years, was replaced. Presumably this was because of an AMA rule limiting the number of years a chairman may serve. On the other hand, one would wonder if there is any significance in the fact that Dr. Bartemier has been a prime figure in the Joint Commission study, and that objections to this report may have been a factor in his replacement. In any event, the new chairman is Dr. Lauren Smith, formerly vice chairman, and the new vice chairman is a comparative newcomer, Dr. Lindsay Beaton, of Tucson. A number of important conclusions were reached at this meeting on February 1 and 2. The psychiatrist should assume most of the responsibility for communication of mental health information. The private practice of psychiatry should be strengthened and extended by improved and broader insurance coverage for psychiatric illnesses. The responsibility for the care and treatment of psychiatric patients rests only with physicians. These are only a few of the highlights of a comprehensive report which included recommendations regarding medical education, research, personnel problems, community mental health services, hospital programs and communication of mental health knowledge.

"In conclusion, I would like to state that I believe it extremely important that the Mental Health Committee of our State Association concern itself to the utmost with preparations for this First National Congress on Mental Health. With 2,500 participants to be invited, Missouri should be represented by at least 30 or 40 persons. If so, there should be 20 or 25 physicians in the group. One group at the recent meeting in Chicago of the state association representatives went on record with the recommendation that at least 75 per cent of the participants should be physicians. It was suggested that the State Medical Association play a key role in selecting the participants in the First Congress. This would occur through the President, Executive Secretary and the Mental Health Committee. Informed and influential representatives from medical schools, state governments, mental health associations, educational groups, service clubs, religious organizations, industrial organizations, labor unions, insurance companies, etc., should be recommended for selection. It was felt that a blanket invitation to all of these groups to send a representative to participate would be unwise. Instead, the State Medical Society can help select the kind of people who will exert a constructive influence in the deliberations of the Congress, and in the local communities after the Congress has issued its report. Therefore, I think it will behoove this Committee to start immediately to think about the kind of participants it wants to decide these issues and the kind of program it wants this Congress to work toward."

October Conference.—The National Congress on Mental Health to be held in Chicago, October 4, 5, 6, 1962, was discussed. It was pointed out that only persons suggested by the states would be invited to the Conference and that some names of physicians and laymen had been submitted. Other members of the Committee who had not done so were asked to submit names. It was reported that there will be a steering committee from each state and Dr. Forman and Dr. Dowell were asked to appoint this steering committee when it was known who would attend the meeting. It was agreed that the Committee should meet in Chicago on the first evening of the meeting to decide future actions regarding the Congress. Of those present at the Committtee meeting, Drs. Forman, Lawrence, Haddock, Weiss and Guhleman expect to attend the Congress.

Federal Monies.—The acceptance of federal monies was discussed and it was pointed out that at the November 5, 1961, meeting this had been disapproved. After discussion the Committee decided that federal money was coming into the state and that as long as it was restricted to education, research and construction and the actual control remained in the local community and the state, that it was acceptable.

Future Plans of Commission.—Dr. Haddock discussed the future plans of the commission for work in mental health in the state, stressing principally the plan for intensive treatment and training centers in St. Louis, Kansas City and Columbia. It is hoped that there will be connections with the universities in this work. He gave statistics showing that good results had been obtained in the intensive centers now operating and that it was hoped that a residency and staff program would attract more physicians to the psychiatric field. He said that traveling clinics which had been established will not be pushed. Legislation will be necessary from the standpoint of obtaining an appropriation of about $10,000,000 for some needed buildings for the plan.

Prepaid Health Insurance.—Dr. Forman gave a brief report on a study of health insurance coverage for psychiatric care, indicating that it was far less than for practically all other diseases. Mr. O'Brien was asked to obtain data from local and neighboring state plans as to the extent of present psychiatric coverage.

Narcotic Addiction.—Dr. Forman read releases from the AMA as of May 14 relating to drug addiction and it was suggested that a portion of the report be published in MISSOURI MEDICINE.

Osteopathic Students.—Dr. Forman called attention to the letter from Dr. George A. Ulett to the Council asking approval of osteopathic students working in state mental hospitals and which was referred to the Committee. The Committee action was that this be approved but stresses the need for proper supervision.

A motion by Dr. Whitener, duly seconded, that this be approved lost on vote. Dr. Benoit suggested that Dr. Ulett be notified that it has been disapproved but that it would be reconsidered by the Council if an outline of the program and its scope were presented.

Dr. Forman reported that the Committee had attempted to get clarification on a resolution that had been introduced in the 1961 House of Delegates by the delegate from Clay County but had received none and the Committee approved the portion which read "mental health activities should be carried out by scientific mental health organizations." On motion of Dr. Hollweg, duly seconded, this portion of the report was approved.

The National Congress on Mental Health to be held in Chicago, October 4, 5 and 6 was discussed briefly. On motion of Dr. Whitener, duly seconded, the report with the one exception relating to osteopathic students, was approved.

MENTAL HEALTH RECEIVING CENTERS

On motion of Dr. Fisher, duly seconded, it was voted to ask Dr. Ulett to attend the next Council meeting and to outline the plan on the intensive treatment and training centers as reported in the Committee report and to discuss the program of training of osteopathic students.

ANNUAL SESSION

Dr. Matthews reported on the program for the Annual Session giving subjects of panels and presentations planned and speakers that had been obtained. He expressed appreciation for the organizations that were assisting in the program. While Monday and Tuesday will be devoted to scientific presentations, it is planned that the Wednesday morning session be devoted to a medico-legal or medico-economic program.

Plans for the Sunday evening dinner were discussed and it was suggested that the Woman's Auxiliary be asked to handle the dinner and include a speaker on AMPAC as part of the program.

KERR-MILLS

Senator Cason reviewed briefly the Kerr-Mills implementation bill introduced in the last General Assembly and said that the lateness of introduction and the lack of information on which to base expected cost led to the appointment of the Special Committee of the Legislature to Study Medical Care Aspects of the Aging, of which he is chairman. He said that the committee has had several meetings with representatives of interested groups. He said that the report of the committee was being prepared and it was hoped that it could be made public by October 30, including a drafted bill which he hoped would be both S.B. 1 and H.B. 1 in the next Legislature. He said that many things had been considered including the liberalization of what "acute illness and emergency" meant. The feeling of the committee is that the greatest need is for those on the OASI rolls. He called attention to the difficulty in Illinois, West Virginia and Colorado where programs were started on too broad a scope and said that the committee wished to start with a program that can be maintained, then broadened as it becomes possible. He said that it is estimated that it would cost between 4 and 5 million dollars of state money to establish a program, depending to a great extent on how inclusive any coverage of drugs was anticipated. Senator Cason said that legislation to establish a Commission on Aging was being considered.

Senator Cason spoke at a Council meeting.

MSMF

Dr. Furlow reported on the Missouri State Medical Foundation as follows:

Missouri State Medical Foundation
Receipts 9/25/62

Received from MSMA	$75,000.00
Received from donors prior to March 1962	3,020.00
Received from solicitation letters (34 donors) July, 1962	1,012.00
	$79,032.00
Expenditures	74,455.00
Balance on hand	$ 4,577.00

Breakdown:

Total number of loans	158
Students receiving more than one loan	52
Students receiving only one loan	28
Loans granted to students	80

Dr. Furlow asked that more help be given in obtaining funds for the Foundation and pointed out that a letter that had gone to the membership brought a very meager response. He said that educational and charitable foundations in the state are being contacted. It was suggested that the Woman's Auxiliary be encouraged to take more interest in the Foundation. Free space has been given by a number of Medical Bulletins in the state for Foundation ads.

KEOGH BILL

Mr. O'Brien reported that the Keogh Bill had just been passed but that full particulars of its context were not available as yet.

SOCIAL SECURITY

Mr. O'Brien called attention to information that the government will require everyone to have Social Security or tax numbers and said that further information on this will appear in MISSOURI MEDICINE.

AMA SESSION

Dr. Petersen reported briefly on the June session of the AMA and called attention to the report of the session which appeared in the August issue of MISSOURI MEDICINE.

TEMPORARY LICENSE

Dr. William D. Perry, Chairman of the State Board of Registration for the Healing Arts, discussed the need for granting of temporary licenses or certificates for interns and residents and also foreign graduates, without citizenship, for the purpose of assisting in securing personnel for the state mental hospitals. He said that the temporary license should be for one year and would be renewable. He said that 20 to 25 states have such provision for periods of from one to five years. This was discussed by several Council members, Dr. O'Reilly, Dr. Wilson and Mr. Hailey. On motion of Dr. Hollweg, duly seconded, it was voted to approve in principle the plan of a temporary license but that a specific draft be presented to the Council before definite approval is given.

EXAMINATION FEES

Dr. Perry asked approval of legislation providing that fees be raised for licensure examinations from $12.50 for Part I and $12.50 for Part II, to $25.00 and $25.00. He explained that the only income that the Board has is from examination and registration fees. On motion of Dr. Dowell, duly seconded, this was approved.

REGISTRATION FEES

Dr. Perry also asked approval of legislation providing an increase to $10.00 per biennium for registration fees. The present fee is $2.50 per year or $5.00 per biennium. On motion of Dr. Hollweg, duly seconded, this was approved.

PROBATION

Dr. Perry pointed out that in the present law there is no provision for probation, only suspension or revocation of licenses and said the board felt that probation would be useful. On motion of Dr. Benoit, duly seconded, this was approved.

PHYSICAL THERAPIST LICENSING

Dr. O'Reilly discussed the desire of the physical therapists to be licensed. He pointed out the difficulty of this licensing being placed under the State Board of Registration for the Healing Arts and the disadvantages of it being under a separate licensing board. It was the feeling of the Council that licensing of physical therapists be approved if a bill is drafted which is satisfactory to the board. On motion of Dr. Dowell, duly seconded, this was approved.

CORPORATE PRACTICE

Dr. Perry said that the Attorney General has previously stated that no change in the medical practice act is necessary if the board adopts a code of ethics by regulation, outlining requirements for doctors desiring to practice on a group basis under state corporation laws. However, he stated that additional information on that subject had just been received that morning and he had not had a chance to study it. On motion of Dr. Hollweg, duly seconded, this entire matter including the new information was referred to the Committee on Corporate Practice.

MMPAC

Dr. Ralph Perry reported briefly on MMPAC and AMPAC. Mr. Woolley reviewed the situation on candidates for the Congress and stressed the necessity of the work of both MMPAC and AMPAC.

PUBLIC SERVICE

Dr. Dowell appointed the following Committee on Public Service: Drs. Byron M. Stuart, Chairman; Kenneth Hollweg, Kansas City; Armand Brodeur, St. Louis; Fred L. Wommack, Crane; and Dr. Dowell.

REDISTRICTING

Dr. Dowell appointed the following Committee on Study of Redistricting: Drs. J. H. Summers, Lebanon, Chairman; Ben M. Bull, Ironton; Don C. Weir, St. Louis; Ralph Perry, Kansas City; and Chester L. Clark, Trenton.

BUDGET COMMITTEE

Dr. Furlow appointed the following Budget Committee: Drs. Charles R. Doyle, Chairman; Dowell, Hollweg, Stuart, Barger and Furlow.

CIVIL DEFENSE

Dr. Barger reported that Dr. Carl D. Siegel wished to have booth space at the Annual Session for a Civil Defense Exhibit and moved that such be made available. On second, this was voted.

PENSION PLAN

Mr. Smith asked if employees of St. Louis Medical Society might go under the same pension plan for employees that is in force with MSMA and was informed that there is a provision so that employees of any component medical society may do so.

Dr. Benoit asked for information on the pension plan for Jackson County Medical Society.

DR. AND MRS. HOLLWEG

On motion of Dr. Barger, duly seconded, Dr. and Mrs. Hollweg were thanked for their hospitality on Saturday evening.

NEXT MEETING

The next meeting was set for December 8 and 9 in St. Louis.

Meeting of December 8-9, 1962

The Council met at Hotel Chase, St. Louis, December 8, 9, 1962, with Leonard T. Furlow, M.D., St. Louis, Chairman, presiding. Those present were Drs. Furlow; A. P. Rowlette, Moberly; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; O. B. Barger, Harrisonville; Hector W. Benoit, Jr., Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Donald M. Dowell, Chillicothe; Kenneth C. Hollweg, Kansas City; John I. Matthews, Jefferson City; Charles R. Doyle, St. Louis; Messrs. Gary L. Schnedler, Springfield; Frank Woolley, Chicago; Jordan Singleton, Gene Lunn, Lemoine Skinner, Edgar Mothershead, Hollister Smith, Tom P. Fox, Ray McIntyre, Tom R. O'Brien and Miss Helen Penn, St. Louis. Attending portions of the meeting were: Drs. George A. Ulett, H. M. Hardwicke, Jefferson City; Carl Siegel, Sedalia; Richard H. Kiene, Kansas City; J. W. Thompson, Joseph V. Finnegan, Curtis H. Lohr, Eugene F. Tucker, T. J. Cooper, William D. Perry, St. Louis; Angelo Lapi, Kansas City; Mr. John A. Hailey, Jefferson City; Dr. James A. Kinder, Cape Girardeau.

Several doctors have private conference outside meeting room.

EXECUTIVE SECRETARY REPORT

Mr. O'Brien reported on letters to and replies from some of the recently elected legislators.

He reported that the Medicare program would be continued on the same basis as it had been in the past and that a letter of thanks for cooperation from the Medicare office had been received.

He presented a letter from Mr. Barton of the AMA relating to state liaison officers with the office of the Surgeon-General of the Air Force, to be appointed by the State Medical Societies. He said that he had asked for fuller information on this.

EDITORIAL BOARD

On motion of Dr. Hollweg, duly seconded, it was voted that the present Editorial Board be enlarged to include the following new members: Drs. John Berry, John Dolan, Donald J. Mehan, Richard Muckerman and William I. Stryker, St. Louis, and that Councilors make suggestions if they felt there should be changes in the present members of that Board.

FIELD SECRETARY'S REPORT

Mr. McIntyre told of his work with the Missouri Health Council, of which he is chairman this year. He explained that it was made up of 34 state-wide organizations with a fundamental interest in health and four county health councils and that it served as a sounding board and forum on health matters and also presented two full day programs each year. This spring it is planned to have a session on "Medical Quackery" in Jefferson City on May 1, and that Mr. Oliver Field of the AMA would assist with the program.

Mr. McIntyre called attention to doctors who have recently located in Missouri, several of them being graduates of the University of Missouri. He gave a summary of the Missouri State Medical Foundation and said that probably $15,000 would be needed by February 1, to cover loan requests for the second semester.

MISSOURI STATE MEDICAL FOUNDATION

Receipts

Received from MSMA	$75,000.00
Received from Donors prior to March, 1962	3,020.00
Received from Solicitation Letter—July, 1962	1,047.00
Received from Solicitation Letter— November, 1962—(through 12/8/62)	1,590.00
Received from Mid-Missouri Society	50.00
Received Tribute Contributions (3)	100.00
Total	$80,807.00
Total loans to date	74,455.00
Balance on hand 12/8/62	$ 6,352.00

Breakdown

Total number of loans	158
Students receiving more than one loan	52
Students receiving one loan	28
Loans granted to students	80

AMA SESSION

Dr. Kiene gave a brief report on the AMA Interim Session. He said that most items were carried over until the June 1963 meeting. Among things discussed or acted on were the report of AMPAC, that it had been 70 per cent successful; urging that there be no compromise of AMA position on King-Anderson type legislation; the adoption of four amendments to be recommended for the IRS code; approval of minor changes in the Kerr-Mills law; paying of interns and residents was reviewed without action taken, to be reported on further at the

June meeting; further discussion to increase the number on the Board of Trustees; medical records discussed but considered a legal problem rather than medical; report of the work of the American Medical Research Foundation; a resolution by Missouri delegates on WHO referred to Board of Trustees. He said that no report was given on the proposed change in the make-up of the Council on Medical Education to have more private practitioners on it, although it had been referred to a reference committee and reported on at the last session and referred to the Board of Trustees. He said that if no report is forthcoming, the Missouri delegates will write asking what action had been taken.

The paying of interns and residents was discussed and it was requested that state medical associations send their ideas on this to the Council on Medical Education and Hospitals of the AMA before the June AMA meeting.

CORPORATE PRACTICE

Dr. Hollweg presented the report of the Committee on Corporate Practice as follows:

The Committee on Corporate Practice met at the Chase Hotel, St. Louis on October 28, 1962, Dr. Hollweg presiding as Chairman.

Minutes.—Minutes of the previous meeting were presented and on motion, duly seconded, approved.

State Board of Registration for the Healing Arts.—Dr. William Perry, President, State Board of Registration for the Healing Arts, had been asked to seek an opinion from the Attorney General as to whether or not the Board had sufficient powers, under the terms of S.B. 50, to make rules and regulations pertaining to ethical standards of licensed physicians who might seek to utilize the Corporation approach for medical practice. The Attorney General advised Dr. Perry that the Board did have such powers. However, he suggested several revisions and additions to Section 334.100, RSMo. 1959, one of which deals with a prohibition against advertising, and which, if enacted, would be of great assistance to the Board.

Drs. Knabb, Dr. Stauffacher as Vice President, and Dr. Ernst attend 50 Year luncheon.

The other additions to the section deal with improvements in language and clarifications of the ethical specifications of licensees. It was agreed that these should be referred directly to the Council for consideration rather than to the Committee on Corporate Practice.

Missouri Bar Association Proposal.—Dr. Bunting presented a copy of an act which is being prepared by a Committee of the Missouri Bar Association for submission to the legislature. In general, it follows the terms of an act adopted in Oklahoma which would create a special type of enabling legislation under which professional persons could organize a corporation. The Committee had considered such a plan at an earlier meeting, including a study of the various acts adopted by 14 other states. It was agreed that Dr. Bunting should thank the chairman of the Bar Association committee for providing us with the information and copy of the proposed act.

Recommendations.—Dr. Williams presented a number of recommendations regarding the position of the Committee on Corporate Practice for submission to the Council of MSMA, as follows:

1. The Committee has studied the various approaches by which physicians may join together as partners, associations or corporations under resolutions pertaining to ethical standards adopted by the House of Delegates of the American Medical Association. Specifically it is stated by such resolutions that it is within the limits of ethical propriety for physicians to join together as partnerships, associations or other lawful groups providing that the ownership and management of the affairs thereof remain in the hands of licensed physicians. The Judicial Council of the AMA has considered such matters and has officially reported on them in the publication, "Opinion and Reports" Judicial Council of the AMA, preamble page 5.

2. The Committee has studied the opinion of the Attorney General of Missouri, No. 8, issued March 15, 1962, and accepts the opinion, which states "Under Missouri law, corporations cannot practice medicine. However, contracting to supply medical services and contracting with licensed medical practitioners to furnish such services does not constitute the practice of medicine under present Missouri court decisions. Therefore, making such contracts constitutes a proper corporate purpose."

3. The Committee has obtained assurances from the Attorney General that the State Board of Registration for the Healing Arts has authority under Chapter 334, RSMo. 1959,

(a) To obtain certified information concerning its licensee in regard to his professional associates in partnerships, associations or corporations.

(b) To determine the ethical relationship of its licensee in his association by application of the Opinions and Reports, Judicial Council, AMA.

(c) To determine the ethical relationship of its licensee in his associations by application of the opinions and reports of duly constituted bodies of the Missouri State Medical Association.

(d) To withhold license, to revoke license or withhold registration in the event the licensee has assumed unethical relationship or association as determined by standards of the AMA or the MSMA.

4. The general business incorporation instrument, as a result of the Attorney General's opinion noted above, is available to those who wish to contract to supply medical services and to contract with licensed medical practitioners to furnish such services.

5. The Committee recommends that the Secretary of the State of Missouri should be notified of the opinion of the Association that charters should be granted to interested petitioners for incorporations to contract to supply medical services and to contract with licensed medical practitioners to funish such services.

6. Members of the Association should be made aware of the decisions so that they may avail themselves of the general business incorporation instrument if they so desire. (The membership was to be notified not later than December, 1962, in the event legislation was considered necessary. Since it is not necessary, the report may be sent by mail or published in MISSOURI MEDICINE.)

On motion of Dr. Williams, seconded by Dr. Lund, it was agreed to submit the recommendations to the entire committee (since a quorum was not present), for approval; following approval that the report be submitted to the Council for consideration at its December 8, 9, 1962 meeting.

In discussion it was brought out that the Attorney General had instructed the Secretary of State to issue incorporation papers to those groups of doctors which had applied but that this had not been done as yet. It was suggested that in case of a test case it would be well that those wishing to incorporate be known to each other. Mr. O'Brien said he would attempt to see that such a list be compiled in the office.

Dr. Robbins received University of Missouri recognition plaque from Dr. Jeans at Missouri University luncheon.

On motion of Dr. Hollweg, duly seconded, the report was accepted. Dr. Barger asked the opinion of the Council on a new hospital in his district employing a nurse anesthetist who is paid a salary by the hospital, patient being billed by the hospital. After discussion that showed that this varied in different localities, it was agreed that a legal opinion should be obtained.

COMMITTEE ON TUBERCULOSIS

Mr. O'Brien presented the following report of the combined meeting of the Committee on Tuberculosis, the Trudeau Society, the Tuberculosis Association and the Division of Health.

The Committee on Tuberculosis met November 18, 1962, Missouri Hotel, Jefferson City, Florence E. MacInnis, M.D., Kansas City, Chairman, presiding.

Purpose.—(1) Discussion of the Respiratory Disease Campaign set by the National Association for Spring of 1963, and (2) discussion of an eventual, all out program, for the eradication of tuberculosis.

RD Campaign May 1, 1963.—Brochures prepared by the National Tuberculosis Association were distributed and identified as 1963 RD Campaign Materials. This folder is further identified on the front cover—Cough Too Much? Shortness of Breath? Dr. MacInnis asked Mr. Pratt to report on the plans for this program, including material distribution and publicity. The intention of the program is to encourage early diagnosis among patients under the care of the private practitioner. Public local kickoff and publicity is to begin May 1, 1963 and continue intensively through June 15, 1963. Educational work will continue thereafter. The Educational program is to be financed through the sale of regular Tuberculosis Christmas Seals.

Mimeograph copies were distributed also, to those present, of the Preliminary Suggestions for a Public Relations Program to Supplement National and Local Efforts During the Respiratory Diseases Campaign May 1-June 15, 1963.

The brochure, Exhibit No. 3, was discussed. This is a guide for physicians identified as "Chronic Cough or Shortness of Breath—Differential Diagnosis." It was agreed that Missouri Tuberculosis Association would procure and mail one of these pamphlets to each member of the Missouri State Medical Association, with assistance of MSMA.

It was agreed that involvement and orientation of industrial physicians is important, so that they will not be disturbed regarding industrial hazards. Mr. Pratt reported that the Missouri Tuberculosis Executive Committee had already approved the RD Campaign.

Missouri Tuberculosis Society will seek names of speakers from the State Medical Association, pursuant to arrangement of programs, publicizing the RD Campaign to laymen. Efforts will be made also to publicize the RD Campaign in all state and local medical journals.

Facilities for Pulmonary Function Studies.—Missouri TB distributed copies of a limited list of "Facilities for Pulmonary Function Studies" to committee members present. Following discussion, it was agreed that completion of this list will not be undertaken at this time.

Report From Missouri Division of Health.—Dr. Meinershagen reporting on the new Missouri Recalcitrant Law, stated that to date, six patients were confined by the law and that fifteen patients have been returned for hospital care.

Attention was called to the need for additional funds to provide more facilities and guards for patients, in compliance with the new law.

Certification program was reported, including students, and teaching institution personnel, to date, involving 120,000 adults and children in 32 counties. Case findings, however, indicate a lower incidence of tuberculosis than is found in surveys using the chest x-ray system.

Reference was made also to the costs of the Tine tests using products of the Lederle Laboratory.

Dr. Meinershagen reported that decreasing government funds warranted greater effort to control the use of expensive supplies and drugs.

There was a discussion on varied types of tuberculin tests and on the use of varied types of tests throughout the state without any definite conclusion being drawn, except that the Mantoux Test is considered most acceptable and the Tine Test is now considered acceptable for mass testing in Missouri.

Report of the Kansas City Health Department.—Dr. MacInnis referred to a report released by the Tuberculosis Clinic and Health Department in Kansas City on tuberculosis statistics.

Problems of District Confinement.—Dr. Kerr called attention to the fact that tuberculosis cases for 1961 were greater in number in St. Louis County than those in St. Louis City. It was suggested that action be taken for easier access to Koch Hospital facilities especially for patients in the Eastern part of the State. Such action would greatly reduce the number of patients being sent a far distance to Missouri State Sanatorium at Mount Vernon, which would reduce the number of patients leaving against medical advice. Discussion followed on the subject of differential in the per diem rates pursuant to reimbursement by the state. Dr. Meinershagen stated that he would refer this suggestion to Dr. Hardwicke for consideration.

Psychotic—Tuberculosis Patient Care.—Following discussion, it was agreed that the need is urgent for facilities to hospitalize psychiatric patients who are also victims of tuberculosis. Dr. Meinershagen reported that the Division of Health is already investigating. Again, attention was called to the fact that discharges, against medical advice, would be reduced if such facilities could be provided.

It was suggested that the Committee on Industrial Health may be interested in portions of the report and that it should be made available to them.

Various testing for tuberculosis was discussed and Dr. Hardwicke said the Tine Test was more expensive but that it could be done by a nurse, while the Mantoux Test was less expensive but had to be done by a physician.

On motion of Dr. Hollweg, duly seconded, the report was accepted.

COMMITTEE ON PUBLIC SERVICE

Dr. Stuart presented the following report of the Committee on Public Service, together with the newspaper release on Senator Cason's report.

The Committee on Public Service met at the Chase Hotel in St. Louis on November 1, 1962, Dr. Byron M. Stuart presiding as Chairman.

Formation of Committee.—Dr. Stuart reviewed the action of the House of Delegates which made the Committee on Public Service a permanent standing committee formed from the former Committee on Public Policy and Public Relations, Health and Public Instruction and Public Service in order to concentrate similar functions in a single committee.

Purposes.—Dr. Stuart summarized the purposes of the committee, which has primary responsibility in the area of Communications and public service projects, as:

1. To review the communications activities of the Association for adequacy, effectiveness and prudent expenditure of funds.
2. Through the staff, to assist the Council and other Association Committees in communications with the public, membership, government and other audiences.
3. To recommend to the Council and other committees appropriate activities that might be undertaken to enhance the public relations of the Association.
4. To serve as liaison with component societies to assist with public service and public relations projects, provide for an interchange of ideas and encourage the undertaking of special public service activities.
5. To serve as liaison with the AMA in cooperation with national public service and public relations projects.
6. To originate and carry out special public service projects on the state level.

Activities in 1962.—Mr. Skinner reviewed the public activities thus far in 1962 including the following:

1. Annual Session publicity.
2. Preparation of various speeches.
3. Continuing routine publicity program on a variety of subjects.
4. Services to Association committees, county societies and membership.
5. Campaign to obtain additional advertising revenues for MISSOURI MEDICINE.
6. Numerous activities in connection with the Missouri State Medical Foundation, particularly in connection with its fund raising program.
7. Assistance to Missouri Medical Political Action Committee.
8. Projects in support of implementation of Kerr-Mills law in Missouri.
9. Extensive activity in opposition to the King-Anderson bill.

Congratulations were offered after the Past President's banquet.

Future Activities.—Consideration was given to future activities of the committee, including continuation of established projects, legislative activities during the coming sessions of the Federal Congress and the Missouri legislature, and several potential special projects that might be undertaken by the Association.

Established Projects.—It was agreed that continuation of established activities presently being implemented would be necessary for the foreseeable future. These include such programs as the anti-Social Security medicine campaign, efforts to expand and improve the Kerr-Mills program in Missouri, fund raising efforts for the Missouri State Medical Foundation, continued assistance to MMPAC, continued efforts to increase MISSOURI MEDICINE advertising revenues, assistance and publicity in connection with the Annual Session and continuation of the many routine publicity and public relations activities now being carried on.

Legislative Activities.—Mr. O'Brien reviewed the work that will be necessary in connection with legislative activities, mentioning that King-Anderson type of legislation would undoubtedly be introduced again and that the Association would have to again mobilize all of its forces in opposition. He covered a number of matters expected to come up in the Missouri General Assembly beginning in January, including measures to increase the power of the Board of Registration for the Healing Arts in regard to unprofessional conduct and to raise licensure and registration fees. He covered also expected bills dealing with the state mental health program, the Division of Health and the University of Missouri School of Medicine, along with matters dealing with the licensing of physical therapists, Blue Cross and Blue Shield, a Medical Examiners Act and the attempts of fringe practitioners to extend their practice rights.

In connection with the Association's efforts to extend Kerr-Mills implementation in Missouri, Mr. O'Brien gave committee members copies of the report of the Interim Committee of the Legislature studying the health care needs of the aged. He said that he had personally attended all of the committee hearings and that the committee had heard testimony from Association representatives and had been responsive to the opinions of medicine.

Mr. O'Brien explained that the committee recomendations enlarge the Kerr-Mills program now in effect in Missouri, and that Senator William Cason, chairman of the interim study committee, had expressed the hope that the recommendations would be embodied in bills which would become Senate Bill No. 1 and House Bill No. 1 in the coming legislative session.

On motion of Dr. Hollweg, seconded by Dr. Brodeur, it was voted that the committee approve release of a statement by the President of the Association, Dr. Dowell, commending the work of the Interim Committee.

Potential Projects.—A number of projects that might be undertaken by the Association were discussed. The committee made recommendation that a survey be undertaken to determine current activities of the county medical societies in the public service and public relations areas and that health career recruiting be stimulated by letters to county societies and schools advising them of the wealth of recruitment materials available through the American Medical Association.

It was also recommended that a legislative newsletter be published for Association members at intervals during the next session of the state legislature and that full cooperation be given to the Missouri Health Council Conference on Quackery in Jefferson City next Spring. In discussion of the Directory of Health Resources project, it was reported that with about one-half of the state surveyed, the Woman's Auxiliary had gone as far as it possibly could with the program. The work and expense of completing the survey and publishing and distributing the directory was thoroughly reviewed. In view of the very substantial expense involved and the Association's present financial situation, it was decided that the material so well compiled by the Auxiliary should be catalogued and maintained in the Association office and used to research referral resources on request by member physicians and county medical societies. In this way, the information will serve the purpose originally planned as a valuable reference source for physicians without the considerable cost of publication in booklet form.

Other projects considered were programs to develop closer relationships between medicine and the teaching profession, to provide assistance to county societies wishing to put on Sabin vaccination drives and to provide assistance in Civil Defense "self-help" medical training programs. Action on these suggestions was deferred for the time being, but the committee emphasized that its services and assistance would be available at any time to county medical societies in connection with local public relations and public service projects.

Dr. Furlow said that he had received a request from the St. Louis Medical Society for help in supporting their radio and TV work, and this was referred to the Committee on Public Service.

On motion of Dr. Dowell, duly seconded, the report was accepted.

AMERICAN ASSOCIATION OF MEDICAL COLLEGES

Dr. Dowell reported that he will attend a meeting of the American Association of Medical Colleges to be held in Denver at which time some pertinent problems of medical schools will be discussed, and requested any suggestions along this line.

LEGISLATION

Mr. O'Brien called attention to the report of Senator Cason for the committee studying Kerr-Mills type of legislation. He said that Senator Cason hoped that most of the legislation could be encompassed in one bill, with others to make necessary changes in present laws—that Senator Cason hoped bills would be introduced as S.B. 1 and H.B. 1. He said that apparently the Governor will support the bill.

Mr. O'Brien pointed out that there are several bills which will require appropriations in which the Association is interested, such as the Division of Health, University of Missouri and the Division of Mental Diseases.

Mr. O'Brien said that the medical legal examiners bill had been referred to the Bar Association and that it was hoped that they will endorse and promote it.

Dr. Benoit said that Dr. Charles Wheeler of Jackson County wanted to know if the Council would object to a bill, referring only to Jackson County, being introduced if the bill for the whole state was not introduced. He was advised that this should be cleared with the Committee on Laboratory Medicine since that was the committee that had worked on the bill.

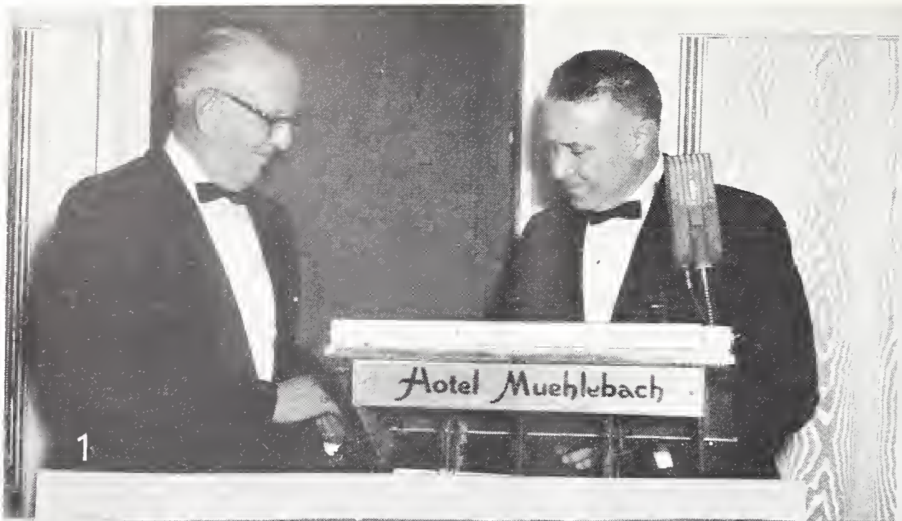
It was pointed out that without doubt there would be bills introduced in the legislature which would need work to defeat, as well as those that would need support.

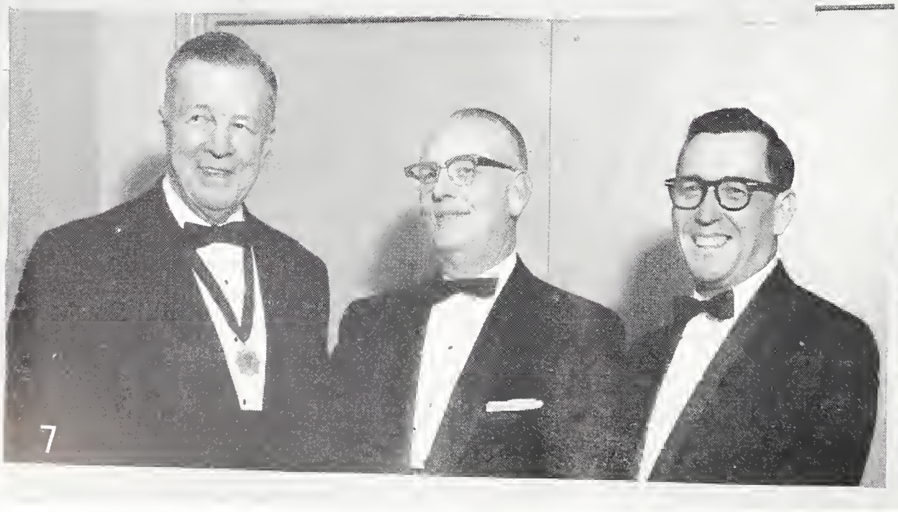
CIVIL DEFENSE

Dr. Siegel reported that there are now 96 self-help training kits in use or being distributed. He said that 60 courses had been given and about 1,500 people had been instructed. He said that recently the State Highway Patrol had put in a medical self-help program, as had the National Guard some time ago. He reported on various meetings that he had attended. He stressed the need for more general knowledge about the chemical and bacteriologic threat. He said that an exhibit at the State Fair was viewed by from 50 to 60 thousand people and that several county fairs had had exhibits. He said there would be an exhibit at the 1963 Annual Session.

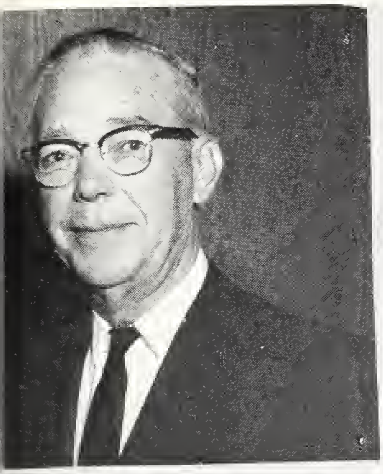
MENTAL HEALTH

Dr. Ulett showed slides on the proposed rapid treatment centers for mental health and gave statistics now





1. Dr. Dowell received the Past President's key from Dr. Hollweg. 2. Dr. Hollweg, President, and Dr. Furlow, President-Elect. 3. Dr. Dowell presented the gavel to Dr. Hollweg. 4. The banquet was well attended. 5. Past Presidents and 50 Year men were honored at the banquet. 6. Officers and their wives were seated at the



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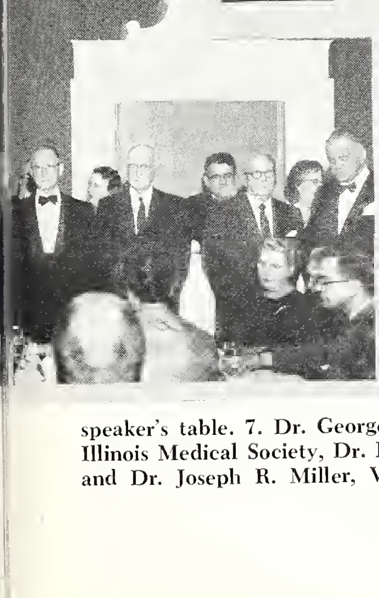
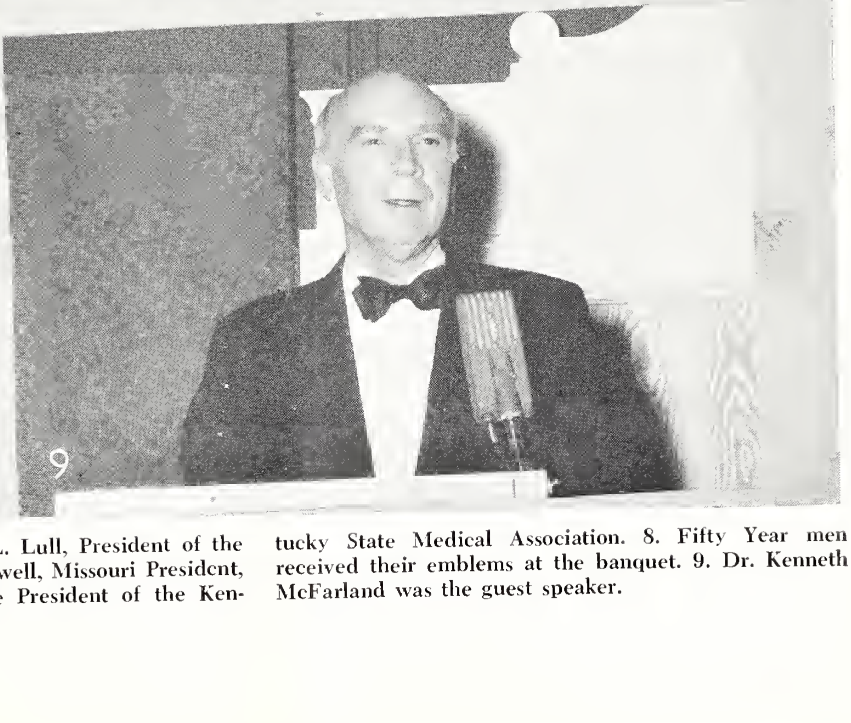
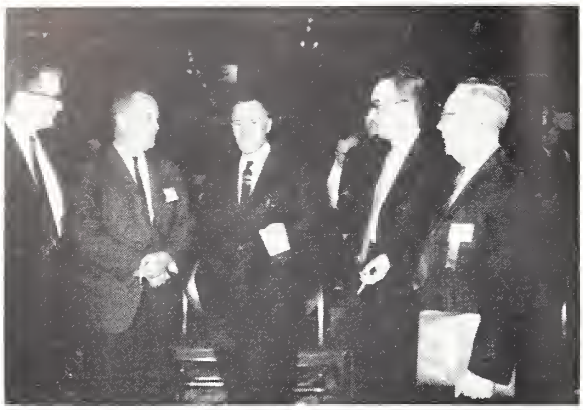




speaker's table. 7. Dr. George L. Lull, President of the Illinois Medical Society, Dr. Dowell, Missouri President, and Dr. Joseph R. Miller, Vice President of the Kentucky State Medical Association. 8. Fifty Year men received their emblems at the banquet. 9. Dr. Kenneth McFarland was the guest speaker.

available on the Rapid Treatment Center in Kansas City and Malcolm Bliss Hospital in St. Louis. He wishes to enlarge these two hospitals with rapid treatment facilities and establish an additional one at the University Hospital in Columbia. See attached report of the Committee on Mental Health for action taken on this item.



Discussion with Dr. Bertrand (center) continued after his presentation.

In regard to the employment of unlicensed physicians at the state hospitals, Dr. Ulett said that he, Dr. Hardwicke, Dr. Wilson and Dr. Perry were still discussing what could be done about this and that he would report later on this phase.

The question of having osteopathic senior students work in state hospitals full time for four-week periods was discussed, Dr. Ulett pointing out that there are patients in the hospitals on whom there is no case history and that the students would be of aid, also being under direct supervision would learn something of psychiatric care. It was pointed out that this had been done at the Fulton hospital for some time and Dr. Matthews said that it had been of assistance there.

A motion by Dr. Benoit that the use of osteopathic students at this time in state mental hospitals be rejected, after second, lost on vote.

On motion of Dr. Whitener, duly seconded, that approval be given to Dr. Ulett's plan to use osteopathic students for a one year's trial, was approved.

COMMITTEE ON MENTAL HEALTH

Mr. O'Brien presented the report of the Committee on Mental Health.

The Committee on Mental Health met at the Missouri Hotel, Jefferson City, December 2, 1962, with George W. Forman, St. Joseph, Chairman, presiding.

Purpose.—The principle business of the meeting was to review and act further on resolutions adopted by the Missouri Delegation to the First AMA National Congress on Mental Health and Illness held in Chicago October 2-4, 1962. (The Text of these resolutions as they were adopted in Chicago were distributed to the Committee.) The Committee considered the resolutions in the order indicated below:

Resolution I (Endorsemnt and Approval of Dr. Ulett's Program).—It was the unanimous sense of the Committee that this resolution be approved by the Council and that, immediately thereafter, a letter already prepared by Dr. Forman be sent to all county societies soliciting their cooperation with MSMA's effort to achieve passage of the legislation proposed.

Dr. Forman reported that in addition to the letter to the President of the Woman's Auxiliary of the Missouri State Medical Association, reporting the unanimous approval of the program of the Division of Mental Diseases by the Missouri Representatives at the AMA National Congress on Mental Illness and Health held in Chicago in October, similar letters had already been forwarded to the heads of other organizations. These included similar letters to the following: Mrs. W. G. Yeghishian, Mental Health Chairman of the Missouri Congress of Parents and Teachers; Judge Noah Weinstein, President of the Missouri Association of Social Welfare at Clayton, Missouri; Miss Ruby M. Walker, R.N., President of the Missouri State Nursing Association at Jefferson City; and also a similar letter to the President of the Missouri State Organization of the Council of Churches. Each of these organizations was requested to notify their constituent societies and request that they donate one or more meetings to a study of Dr. Ulett's program and consider ways to give his program publicity and backing in their local communities.

Dr. Forman also reported that Dr. Willis McCann, Ph.D., a member of the Executive Council of the State Psychological Society, appeared before that society and proposed that it give its official approval of the program of Dr. Ulett. The proposal was unanimously approved by the Council and included an agreement that they would take every means possible, including the use of the Association's Speaker Bureau to speak for the plan to the lay groups all over the state.

Dr. Forman reported that the Woman's Auxiliary was prepared to assist in the effort following the action of the Council. He outlined generally the steps he believed should be taken, assuming the legislation is introduced in a form acceptable to MSMA, to enlist wide public support, including that of church, labor, business and agricultural groups, for its adoption. He suggested that in this activity, MSMA should coordinate its efforts with those of the Missouri Mental Health Association.

Resolution III (More Adequate Insurance Coverage for Emotional and Mental Illness).—After considerable discussion indicating the Committee's unanimous view that insurance coverage for mental illness is at the present time a major problem, it was decided to appoint a sub-committee to study the subject in detail and to draw up a specific plan of action for consideration of the whole committee and then for submission to the Medical Economics Committee of MSMA. The Chairman appointed Dr. George Lawrence of St. Louis as Chairman of the Sub-committee on Insurance.

Attention was called to a recently published book, *Psychiatric Insurance* as a source of valuable data, and Mr. O'Brien stated he would digest materials he has obtained on insurance programs in neighboring states for the use of the sub-committee. The Committee, finally, urged that one of its members be appointed by the next MSMA president to membership on the Association's standing Committee on Medical Economics.

Resolution IV (Programs for Training non-Psychiatric Physicians in the Understanding and Care of the Emotionally Ill and Retarded).—It was the unanimous sense of the committee that the need in this regard was great, particularly in outstate areas, and that it would become greater as the rapid treatment center program gets un-

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derway and increasing numbers of discharged patients are sent home to receive continuing care and help from local doctors. After considerable discussion the committee decided that the following steps should be taken to meet the need.

First it was decided that the two psychiatric societies in Eastern and Western Missouri will prepare lists of their members willing to serve as members of a speakers' bureau and that the two lists, together with lists of proposed subject topics, will be sent to Dr. Forman and to the MSMA office. The Committee and the staff will then cooperate to obtain speaking engagements at scientific meetings of local societies throughout the state.

Second, in order to strengthen the program, and provide guidance and help so far as possible at the local level, the committee decided to ask the councilor of each district to set up a district mental health committee headed or made up of psychiatrists so far as possible. Similarly, county societies will be urged to establish mental health committees, headed in areas where no psychiatrist is available, by a general practitioner or other physician with special interest in mental health.

The question of how a similar program might be developed to reach osteopaths was considered briefly, but it was the sense of the committee it would be best to concentrate on the medical profession for the time being, at least until the educational activity is well established.

Resolution II (Facilities for Treatment of Emotionally Disturbed Children and of the Mentally Retarded).—The committee's discussion of this resolution was extended and disclosed substantial differences of opinion particularly in regard to Paragraph 2 concerning the development of school social service workers to aid in recognizing and dealing with emotionally disturbed children.

Some members of the committee felt that the problem was not in recognizing emotional disturbance, but rather what to do about it, and they felt the contribution of social workers in this regard would be minimal. The view was also expressed that this might well be simply a welfare group maneuver to give social workers, as such, formal status they presently do not have in the school personnel picture.

It was assumed by the committee that the Missouri Association for Social Welfare will propose and back legislation to bring social workers into the school mental health program. The question was asked whether or not the training of school nurses for the purpose would not be a good alternative suggestion, the point being made that the school doctor and the nurse should be at the core of the entire school health program.

Certain members of the committee, on the other hand, stated that their personal experience with social workers and "mental health workers" led them to believe there might be substantial value in the program proposed by the resolution. The committee, in other words, was divided. There appeared to be a consensus that a need of some kind exists. The question remained, however, in the minds of a number as to whether social workers were the right people to fill it whether they were, or could be, or ought to be qualified to undertake such work.

It was clear from the discussion that the committee could not accept Paragraph 2 of the resolution. Paragraphs 1, 3 and 4 appeared acceptable as there was very little discussion of them.

As to Paragraph 5, it was the sense of the committee that additional personnel and facilities for the care of emotionally disturbed children are of great importance.

In connection with the mentally retarded, Paragraph 6, the committee felt the need was for a better job of evaluation to determine the precise degree of educability in each case so that care would be aimed only at what could realistically be considered possible. To improve evaluation procedures, the committee felt the need was for more and better personnel in already existing centers and in the projected intense treatment centers in St. Louis, Kansas City and Columbia. It was suggested the committee might in future assist the Division of Mental Diseases to strengthen its program in this area.

Miscellaneous.—Turning to other matters, the committee discussed briefly the possible future availability of Federal matching funds to support the state program.

The Chairman asked the committee's view on the proposed publication of a roster of Missouri psychiatrists to be given out to delegates to the coming convention of the American Psychiatric Association in St. Louis next spring. The committee turned the proposal down.

After some discussion, it was tentatively decided that the committee would meet again before the annual session of MSMA, but that the date would not be set until the relevant mental health bills had been introduced in the legislature and the members of the committee had had an opportunity to study them.

On motion of Dr. Dowell, duly seconded, the report of the Committee on Mental Health was accepted.

DENTAL MOBILE UNIT

Dr. Kinder reported that the Elks Association has purchased a mobile dental unit for use for retarded children. He said that a commission had been formed which had met during the summer, the commission being composed of members of the MSMA Committee on Infant and Child Care, the Division of Health, the Division of Mental Diseases, the Crippled Children's Service and the Elks. The Elks hope ultimately to have five units available. The Crippled Children's Service will pass on the patients to be handled and the Division of Health will man the unit.

Dr. Kinder was thanked for making this information available to the Council.

BUDGET

Dr. Doyle presented the following budget, which on his motion, duly seconded, was adopted:

Salaries	$ 64,300.00
Office Rent and Light	4,700.00
Postage	5,000.00
Printing and Stationery	5,000.00
Journal Expense	42,000.00
Telephone and Telegraph	3,000.00
Ins. Expense-Emp. Pension Plan	8,000.00
Legal and Professional Fees	3,500.00
Taxes—Payroll	2,000.00
Travel Expense	7,600.00
Committee Expense	48,600.00
Furniture and Fixtures	500.00
General Expense	3,000.00
MSMF Assessment	24,375.00
MSMF Expense	750.00
Total	$221,725.00

TREASURER'S REPORT

Dr. Doyle gave the Treasurer's report which was accepted for filing for audit.

BLUE SHIELD

The information that had been sent to physicians on the Blue Shield Over-65 plans was presented and discussed briefly.

ANNUAL SESSION PROGRAM

Dr. Matthews read the scientific program for the 1963 Annual Session. He said that following the session he would like to circularize the membership again as to their wishes about future programs. He said that 49 of the 54 available technical exhibit spaces had been reserved and called attention to the part the exhibits play in paying for the annual session.

INTRAVENOUS INJECTIONS

Mr. O'Brien presented a letter from the Attorney General questioning whether or not nurses could legally give intravenous injections. After discussion of the policies followed in different localities, on motion of Dr. Benoit, duly seconded, the giving of intravenous injections by registered nurses, under the supervision and order of a physician, was approved.

BOARD OF HEALING ARTS

Dr. Perry said that he had heard nothing from the physical therapists since the last Council meeting. He said that the Board of Healing Arts would prefer not to have them licensed by that Board. He said in some states it was done by the medical board, in others by the board with physical therapy members on it and in other states by a combination of the two and that at present there is no certification in Missouri.

Mr. O'Brien pointed out that the MSMA had not taken an active interest previously, partially because there was more pressing legislation.

Dr. Lapi speaking for pathologists said that most of them were against the licensing of paramedical personnel and called attention to the McKeown Commission of the AMA.

On motion of Dr. Benoit, duly seconded, it was agreed that physical therapists should not be licensed by the State Board of Registration for the Healing Arts.

California situation: Dr. Perry said that about 2,600 individuals had been granted M.D. degrees through the change of the California College of Osteopathy to the California College of Medicine. He said they were of four groups—the faculty of the college, graduates practicing in California, men practicing in other states who had graduated from the school, plus all osteopaths, irrespective of school of graduation, who held California licenses to practice as osteopathic physicians. It was pointed out that the school was now accredited as a medical school. Dr. Perry said that the Missouri Board had had 358 inquiries. Dr. Perry said that all of these men were granted an M.D. Degree by the California Medical College because they held licenses to practice Osteopathy in California. It was emphasized that none of these people would be given licensure as an M.D. until a suit is brought or the Attorney General rules on it. Various methods of handling this matter was discussed.

On motion of Dr. Dowell, duly seconded, it was voted that it is the view of the Council that the Missouri Board for the Healing Arts ought in no circumstance grant a license to practice as a Doctor of Medicine in this state to any person who had not attended and fully completed the curriculum of a school of medicine duly accredited by the AMA during the period of his attendance and study.

LICENSE FEES

A bill to provide for temporary licensure is not yet available. Action on this item was deferred until the next meeting.

CHANGES IN PRESENT LAW

Dr. Perry said that the Attorney General has suggested some changes in the present medical practice act, including adding "attempting to" to the "committing abortion" clause; changing the wording concerning "moral turpitude." Also that the following paragraph be included: "Operation of, or professional connection with, or employment by any man, corporation, company, professional school, clinic or institution that advertises by the use of hand bills, posters, circulars, cards, neon or other electric signs, radio, newspaper or any kind of printed or written publication to make examinations of the eyes for glasses, cure or treatment of cancer or any other diseases, condition or infirmity of body or mind, or to give free examinations."

A panel on "Cancer of the Breast" was part of the scientific session.

On motion of Dr. Benoit, duly seconded, it was voted that this wording go into the amendment.

NEXT MEETING

It was decided that the next meeting would be held on February 3, 1963, and on February 2 and 3, if a two day meeting is necessary.

Meeting of February 2-3, 1963

The Council met at the Park Plaza Hotel, St. Louis, February 2-3, 1963, with Leonard T. Furlow, M.D., St. Louis, Chairman, presiding. Those present were Drs. Furlow; Joseph L. Fisher, St. Joseph; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; O. B. Barger, Harrisonville; Hector W. Benoit Jr., Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D.

English, Cardwell; Donald M. Dowell, Chillicothe; Kenneth C. Hollweg, Kansas City; Charles R. Doyle, St. Louis; Joseph V. Finnegan, St. Louis; H. M. Hardwicke, Jefferson City; Vernon E. Wilson, Columbia; John McLeod, Kansas City; William Perry, St. Louis; Messrs. Jordan Singleton, Lemoine Skinner, Vince Sanders, Edgar Mothershead, Tom P. Fox, Ray McIntyre, Tom R. O'Brien, St. Louis; Helen Penn, St. Louis; Frank Woolley, Chicago; Gary Schnedler, Springfield.

MISSOURI SOCIETY OF INTERNAL MEDICINE

Mr. O'Brien presented a letter from the Missouri Society of Internal Medicine asking permission to use the Association address as a central address for their society; also help might be obtained at times on mailing for which they would pay.

On motion of Dr. Hollweg, duly seconded, this was approved.

A letter from Dr. Kenneth McFarland, banquet speaker, asking permission to announce a recording he had made at the banquet was approved without motion.

A letter from the incoming president of the Woman's Auxiliary asking that an advisory committee composed of Drs. Vernon Wilson, C. Russell Smith, Kenneth C. Hollweg, Durward G. Hall and Martyn Schattyn be approved for next year was approved without motion.

AMEF

Mr. O'Brien said that the Committee on AMEF was asking that it be dissolved since the solicitations were coming directly from the Chicago office, and since the Missouri Medical Education Foundation had been established.

On motion of Dr. Fisher, duly seconded, it was voted that the Committee be abolished, being a Committee established by the Council.

Attention was called to a misleading advertisement of a chiropractic hospital in one of the metropolitan newspapers and that protest was made and that the newspaper said they would not accept it again.

It was announced that the company handling accident insurance for members of the Association wished to broaden the coverage, but it was decided that this should be studied further.

FIELD SECRETARY'S REPORT

Mr. McIntyre called attention to a number of excellent meetings that had been held since the last Council meeting, some of them installation meetings, some postgraduate sessions at the University of Missouri. He also gave a listing of meetings that would occur in the near future. He called attention to the meeting on "Medical Quackery" to be held in Jefferson City on May 1 and presented the make-up of the program to date. He presented an excerpt from the Washington Report on Medical Sciences on "Generation of Change" as follows:

"Between 1931 and 1962 the number of M.D.'s engaged in private practice dropped from 85 per cent to 66 per cent. Physicians engaged in teaching, administration, hospital work, research and preventive medicine rose from 7 per cent to 15 per cent. Internship and residency trainees in same period increased from 5 to 15 per cent. There has been no mentionable change in percentage (4 to 5, fluctuating) of M.D.'s who are retired or not in practice.

"Of 68,297 board diplomates recorded last year, 65,047 were in full time practice of their specialties; 1,005 practiced it part time; 398 were in general practice and 1,847 out of practice . . . 98 per cent of specialists in colon and rectal surgery are in clinical practice, while only 9 per cent of those accredited in administrative medicine are in clinical work . . . 8 per cent of all full time specialists are on Federal payrolls . . . 5 per cent are female, 58 per cent are under 45, 1.3 per cent are nonwhite, 11 per cent serve on medical school faculties. New York State's ratio of 121 per 100,000 population is first among states."

POLIO VACCINE

Dr. Hardwicke discussed the Sabin and Salk vaccines for polio and said that the U.S.P.H.S. had changed its position to a go-ahead on the giving of type III Sabin vaccine but that only the Salk vaccine was being recommended by the Missouri Division of Health.

REPORT OF COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

The following report of the Committee on Medical Education and Hospitals which met on January 27 was presented:

Presiding—William A. Knight Jr., M.D., St. Louis, Chairman.

Present—Drs. Knight; Ralph Perry, Kansas City; Vernon E. Wilson, Columbia; Guy N. Magness, St. Louis; and Messrs. Vincent Sanders, Jordan Singleton, T. R. O'Brien, and Tom P. Fox, St. Louis.

Purpose—The Council of MSMA has requested this committee's suggestions considering the special report on "Compensation of Interns and Residents" submitted to the AMA House of Delegates at its Interim Session in Los Angeles, November 25-28, 1962, appearing on page 459, JAMA, October 27, 1963. This special report was considered by the reference committee on Medical Education and Hospitals of the House as a progress report with more definitive action to be taken at the AMA meeting in June of 1963.

Following discussion, it was agreed that the Chairman and Executive Secretary should prepare a questionnaire for distribution to hospitals in Missouri which conduct Intern and Resident programs. This questionnaire will request information regarding salary and maintenance compensation for interns and residents in Missouri. In addition, all county medical societies will be asked to send their ideas about this matter to the Committee.

Mr. O'Brien said that a further report would be made to the Council after returns from the questionnaire had been received.

CLAY COUNTY

A letter dealing with membership in Clay County was read pointing out that some physicians in Clay County had not been admitted to membership in the Clay County Medical Society. After discussion in which it was brought out that only component societies can decide concerning membership and not the Association itself, it was agreed that some help and advice from the Council might be of aid, to both the society and those asking admittance.

Upon motion of Dr. Fisher, duly seconded, it was voted that a committee be appointed by the chairman of the Council to study the situation, getting accurate and adequate information on both sides, with the aid of legal advice, and report back to the Council. The Chairman appointed the following committee: Dr. Stuart, Chairman, Dr. Fisher and Dr. Benoit.

COMMITTEE ON EYE HEALTH

Dr. McLeod presented the following report of the Committee on Eye Health of a meeting held in Jefferson City on December 16:

Presiding—John McLeod, M.D., Kansas City, Chairman.

University of Missouri Alumni luncheon was well attended.

Present—Drs. McLeod; Michael Pernoud, St. Louis; H. B. Stauffer, Jefferson City; Dick H. Underwood, Kansas City; John Buesseler, Columbia; H. B. Ivy, Springfield; and Paul G. Wolff, Cape Girardeau.

Excused—Drs. D. E. Eggleston, Macon; W. L. Post, Joplin; Paul M. Beck, St. Joseph; Robert S. Minton, St. Joseph.

Proposed Optometric Act—The Committee considered the proposed House Bill, dealing with Sections 336.100, 336.140 and 336.160, and the proposed Senate Bill, dealing with a revision of 336.080, which had been submitted by the Missouri Optometric Association.

Following discussion, it was agreed unanimously that MSMA has no reason to oppose either of the proposals since they do not deal specifically with the definitions of optometry or the scope of practice of optometry. It was agreed that Mr. O'Brien should convey that opinion to the Administrative Secretary of the Optometric group, Mr. Forrest Wallace.

Meeting With Optometric Committee—Following luncheon, the Committee met with members of the Optometric group to discuss non-legislative matters, as per request attached.

Dr. Cable, Joplin, presented three specific items and recommended that Joint Committees be established to discuss them. They were:

a. "External Commercialism," for example, King Optical Co.

b. School Screening Programs.

c. Research Programs.

After a brief discussion, the two committees went into Executive Session. It was agreed that a letter be written to Dr. Cable, requesting a written analysis of the three items for later consideration of the Committee.

Dr. McLeod asked advice of the Council on whether or not further meetings should be held with the optometrists. On motion of Dr. Benoit, duly seconded, it was voted that channels of communication should be continued through the Committee on Eye Health but that no special subcommittee should be set up.

REPORT OF THE COMMITTEE ON CIVIL DEFENSE DISASTER MEDICAL CARE

Mr. Fox presented the report of the Committee meeting in Jefferson City on January 13 as follows:

Presiding—Carl D. Siegel, M.D., Sedalia, Chairman.

Present—Drs. Siegel; Oscar P. Hampton Jr., St. Louis; J. S. Sanders, Jefferson City; Herbert D. Steinbeck, Union; David W. Hall, Springfield; H. M. Hardwicke, Jefferson City; Mr. Kenneth Mayfield, Jefferson City; Mr. Tom Fox and Helen Penn, St. Louis.

AMA Conference—Chairman reported on 13th County Medical Society Conference conducted November 3-4, 1962, in Chicago.

State Programs—Dr. Siegel reported on programs he conducted or attended across the state.

Mo-Kan—Dr. Hungate telephoned to excuse his absence and reported activity of Jackson County area, in particular, the Mo-Kan Civil Defense Program.

Mo. U. Course—Chairman announced plans for a three day course in civil defense and mobilization, open to organizations and individuals, in a six state area. Facilities will provide for 200 persons.

Chemical and Biological Warfare Institutes—Dr. Siegel announced a series of five day institutes in February, March, April, May and June, at U. S. Army Chemical Corps School, Ft. McClellan, Alabama. Applicants should apply to Public Health Service.

AMA Department of National Security—AMA is planning an itinerary of States in spring of 1963. If committee invitation is accepted our next meeting will be held in St. Louis, May 19, 1963.

State Civil Defense Office—Mr. Mayfield explained the liaison between State Civil Defense office and Missouri Division of Health. The five district Public Health offices include Civil Defense Service.

Emergency Hospitals 200 Beds C.D.E.H.—The chairman stated the need for training exercises in use of emergency hospitals. Mr. Mayfield reported that Missouri now has 72 emergency hospitals, of which 69 are stored and one each set up for training, in Kansas City, Jefferson City and West Plains. One additional will be set up soon, in Springfield as a community exercise. In Carrollton on January 20, a hospital will be set up for training exercise. Hospitals in storage across the state, are being inspected for damage and stray supplies. Following inspection, which will require six months. Dr. Hardwicke said that improved storage facilities will be sought.

Self-Help Kits—Dr. Siegel stated that the self-help courses must be expanded. It was stated that 96 kits are now available through the District Public Health offices. Additional 500 are expected by March 15. Mr. Mayfield reported 2,000 people trained to date. Certain schools have approved the program for 9th grade students. Difficulty was encountered in other schools because of established teaching schedules. He said sponsors at present are about 55 per cent M.D.'s and 45 per cent D.O.'s.

M.D.'s Part—Doctors Siegel and Sanders noted that the physician is not required to attend every class, but as a sponsor, be available at certain times as consultant. Dr. Hardwicke suggested that since the general practitioner has close community contact, he should take the lead in sponsorship. Dr. Siegel stated that he urged the Councilors to promote the course in their districts. It was noted that two captive student groups for self-help training would be schools and hospital employees. Nursing Home personnel may, under state licensing law, be required to take the course. Dr. Siegel reported on a TV program, sponsored by the Illinois Medical Society.

County Civil Defense—Dr. Siegel said that all County Medical Societies had been surveyed December 14, 1962, asking for civil defense committees or representatives. To date 19 yes, 2 none, 31 no reply.

Hospitals as Shelters—Chairman referred to *AMA Journal*, December 15, 1962 (Vol. 182, No. 11, page 15), reporting that hospitals have agreed to serve as fall-out shelters. He stated that position of committee taken at meeting May 6, 1962 be reconsidered.

One Hundred and Fifth Annual Session—Dr. Siegel announced that an exhibit booth will be sponsored by the committee at the 1963 MSMA Annual Session, March 24-27 in Kansas City. It was agreed also that time on the 1964 program be requested. Dr. Hampton offered to assist with a program.

Future Meetings—It was recommended that quarterly meetings be held, MSMA and MAGP jointly.

On motion of Dr. Stricker, duly seconded, it was voted that the rules set out by the AMA booklet on "Use of Ancillary Personnel in Civil Defense" be followed in Missouri.

On motion of Dr. Benoit, duly seconded, the report of the Committee was accepted.

LEGISLATION

Mr. O'Brien presented the following report on bills in the Missouri Legislature:

Kerr-Mills Implementation

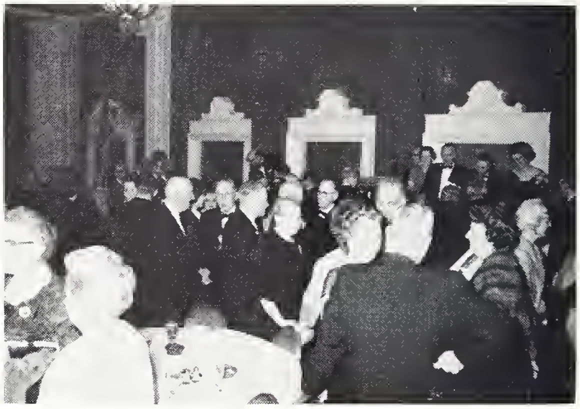
S.B. 140 amends present Kerr-Mills law regarding the needy so that inpatient hospital care may be furnished to persons who are certified by competent medical authority as requiring hospitalization for serious illness or injury for which outpatient care will not suffice, provided, however, that such hospitalization shall not include those persons admitted to a hospital for elective surgery, diagnostic studies and chronic conditions. In addition, certain dental care and prescribed drugs and medicines may be provided.

It is estimated that the cost in state funds will be $4,322,320 for the biennium. The total program, including Federal funds, will amount to about $10,000,000.

S.B. 142 provides that an Advisory Committee to the director of welfare regarding Kerr-Mills shall consist of 11 members, including the Chairman of the Senate Committee on Public Health and Welfare, Chairman of the House of Representatives Committee on Social Security, at least three physicians, the others shall be persons interested in hospital administration, nursing home administration, nursing, dentistry and pharmacy.

S.B. 148 provides that the Division of Welfare shall establish a program for the "near needy." The program shall consist of (1) inpatient hospital care for serious illness or injury for which outpatient care will not suffice; and (2) post-hospitalization nursing services not to exceed thirty days after release from the hospital under the direction of a physician who certifies that private duty nursing care is needed.

It is estimated that the cost in state funds will be $500,000 for the biennium, plus an equal amount of Federal funds, a total cost of $1,000,000.



Past President's banquet broke up with much visiting.

Good Samaritan Laws

H.B. 47 provides that physicians, who render emergency care at the scene of an accident, shall *not* be liable for any civil damages as a result of acts or omissions by such persons when no fee is charged for services rendered.

H.B. 88 is similar to H.B. 47 but is less clear in intent.

Chiropractic

H.B. 200 amends the chiropractic act. Chiropractic is defined to be the science and art of *examining* and adjusting by hand the movable articulations of the human body, especially the spinal column, for the correction of abnormalities and deformities of the human body. X-ray for diagnostic purposes is added.

The chiropractic course shall be for 4 years rather than 3 and shall include the following additional subjects: *clinical diagnosis, x-ray and spinography, bacteriology and biochemistry.* (Symptomatology is deleted.)

Optometry

H.B. 46 increases the fees for license and annual registration fees for optometrists. (See report of Committee on Eye Health.)

S.B. 55 provides that optometrists shall be required to take refresher courses, approved by the board, before their license may be renewed. (See report of the Committee on Eye Health.)

S.B. 20 provides for the licensure of an individual optometrist who had not met the educational requirements of the board.

H.B. 169 repeals the present section of the optometry law dealing with advertising and makes it unlawful for an optometrist, or any other person, firm or corporation from advertising the cost of eyeglasses or using the words "eyes examined free.'

Medical Examining Board

SB. 109 adds a new section to the medical practice act, providing for the issuance of a temporary license for one year, without examination, to a person who is not a citizen of the United States but is legally authorized to practice under the laws of another state, territory or foreign country and who meets such other requirements as the board may prescribe.

S.B. 110 amends the medical practice act by increasing the original license fee from $25 to $50. The biennial license fees are increased from $5.00 to $60.00. The board may place a licensee *on probation,* as well as suspend or revoke a license.

Professional Corporation Act

S.B. 108 provides that accountants, architects, attorneys, chiropodists, chiropractors, dentists, optometrists, doctors of medicine and osteopathy, and veterinarians may create a professional corporation. (The act is similar to those adopted in 19 states which were considered by our Committee on Corporate Practice.)

Mental Health

S.B. 56 authorizes the establishment of Psychiatric Intensive Treatment Centers in St. Louis, Kansas City and Columbia (Dr. Ulett's program).

In discussion, it was brought out that state economics and regulations set up by the Department of Welfare would influence bills S.B. 140, S.B. 142 and S.B. 148.

H.B. 47 was discussed briefly and on motion of Dr. Dowell, duly seconded, it was voted to approve it.

On motion of Dr. Hollweg, duly seconded, it was voted to oppose H.B. 200.

As had been pointed out by Dr. McLeod in his report, there was nothing objectionable in S.B. 55, and H.B. 46 and 169.

On motion of Dr. Hollweg, duly seconded, it was voted that request be made that "doctors of medicine" be removed from S.B. 108.

Attention was called to several other bills dealing with blood tests for drunken drivers, licensing of marriage councilors, state income tax, sales tax, wiping out tax on intangible property. Dr. Hollweg suggested that any legislation dealing with highway safety should be studied carefully.

LIAISON COMMITTEE OF MSMA AND HOSPITALS

Dr. Furlow reported on a meeting the previous evening of the Liaison Committee on the Association and Hospitals. He said the discussion centered on cooperation of St. Louis Blue Cross and Blue Shield, especially in the senior citizen program; the Kerr-Mills implementation and the situation at the Jewish Hospital in St. Louis. It was pointed out that the Jewish Hospital was offering full hospital and medical coverage to several unions. Dr. Furlow said that he at first felt it was a local problem, but now thought it might become a statewide problem and should be brought to the Council. He also said that not sufficient information was available to advise any action on the part of the Council.

On motion of Dr. Whitener, duly seconded, it was voted that a committee be appointed by the Chairman of Council to work with the two local medical societies and obtain information that was needed. Dr. Furlow appointed the following committee: Dr. Matthews, Chairman, Whitener and Furlow.

BOARD OF HEALING ARTS

Dr. Perry reported that the Attorney General had ruled that no osteopathic physician with an M.D. license from California need be licensed in Missouri as an M.D.

He discussed S.B. 109 and 110 and said they were not what the Board had desired, either as to temporary license or the amounts to be charged for biennial registration. It was suggested that new laws be drafted for introduction into the Assembly.

NATIONAL LEGISLATION

Mr. Woolley reported on a meeting of officers of the AMA with officials of HEW. He said there were indications that the Administration bill might be introduced about February 15, although there is some feeling that no bill will be introduced in this session and that care of the elderly under Social Security might be a campaign issue next year.

MISSOURI STATE MEDICAL FOUNDATION

Dr. Furlow gave a financial report on the MSMF, showing that as of January 31, 1963, the balance on hand was $142.00 although some money is due the Foundation from 1963 MSMA assessment. He stressed the need for more contributions and said that a list of contributors will appear in an early issue of Missouri Medicine. He said the total number of loans made was 181 to 81 Missouri students.

He reported on a conference with Dr. Shields Warren, board member of the Mallinckrodt Foundation, set up by Dr. John Shapleigh, company physician, and which Dr. Wilson attended and that there might be a contribution from that Foundation.

On motion of Dr. Dowell, duly seconded, it was voted that Dr. Shapleigh and Dr. Wilson receive letters thanking them for their part in the conference.

It was reported by several that there had been inquiries concerning contributions and especially placing the Foundation in wills. Mr. Skinner said that a list of trust officers for Missouri foundations that might make contributions was being compiled. It was thought that the Woman's Auxiliary might be made more cognizant of the Foundation and its work.

Dr. McFarland was the banquet speaker.

HANDBOOK

It was stated that an attempt would be made to get the minutes of the present meeting in the printed minutes of the Council. Items to be included in the Handbook are report of the Councilor reorganization committee report of the Committee on Medical Education and Hospitals, especially in regard to compensation of interns and residents, report of joint meeting of the committees on Public Service, Aging and Medical Economics to be held February 24, and any resolutions that may be received.

BLOOD BANKS

Dr. Hardwicke reported that the Red Cross was withdrawing from blood bank work. Dr. Wilson said that the Medical Center at Columbia had been informed that the amount of blood received from the Red Cross would be cut down by July 1. Dr. Hardwicke suggested that a committee be appointed to help work out a solution.

On motion of Dr. Doyle, duly seconded, it was voted that this be referred to the Committee on Laboratory Medicine and that a representative from Washington University, the University of Missouri and the Division of Health be asked to work with the Committee. St. Louis University is already represented on the Committee.

TREASURER'S REPORT

Dr. Doyle said that the books had been audited for 1962 and gave a financial report as of January 31. On Dr. Doyle's motion, duly seconded, the report was accepted for filing for audit.

UNIVERSITY OF MISSOURI SCHOOL OF MEDICINE

Dr. Wilson discussed appropriation legislation that had been introduced for the School. He pointed out that the school and hospital are now well staffed and that teaching facilities are of high quality but that sufficient appropriations from the legislature are necessary to maintain this standard. He said that the hospital had the lowest per diem cost of similar hospitals with the exception of two, one of which is not accredited. He said there had been 60,000 outpatients, and 9,000 admissions in the last year.

Dr. Wilson said that he would send a fact sheet to the members of the Council regarding medical school appropriations in the near future.

It was decided that the next meeting of the Council would be on March 24 as a breakfast at the annual session.

Leonard T. Furlow, M.D., *Chairman*

The Speaker referred the report of the Council to the Reference Committee on Reports of Officers, noting that those parts of the minutes, principally committee reports to the Council, which had been referred to other reference committees, had been marked out of the Council report.

SUPPLEMENTAL REPORT OF THE COUNCIL

Leonard T. Furlow, M.D., St Louis: The Council had a meeting this morning and this is a supplemental report of the Council based on the morning meeting.

Last year an effort was made to clarify the activities of the Association's standing committees by the establishment of the Committee on Public Service and, at the same time, the elimination of the Committee on Public Policy and Public Relations and the Committee on Health and Public Instruction. It was agreed that some confusion and overlapping of duties were involved.

For the same reason, it is suggested that the Committee on Hospital and Professional Relations be eliminated. In the future, all matters pertaining to hospitals and the practice of medicine therein will be referred to the standing Committee on Medical Education and Hospitals, if this by-law amendment is adopted. Therefore the following amendment to the By-Laws is presented:

The Committee on Maternal Welfare luncheon was held on Monday.

"Amend Chapter VII. Committees—page 6 of the By-Laws, by deleting the following: 'A Committee on Hospital and Professional Relations.' Further amend Chapter VII. Committees—page 8 of the By-Laws, by deleting the following: 'The Committee on Hospital and Professional Relations shall consider matters relating to the practice of medicine in hospitals.' "

The Council took action to oppose H.B. 200 dealing with chiropractic in its present form and urges the House of Delegates to advise their senators and representatives of this action.

The Council rescinded its previous action to delete the word "physician" from S.B. 108 which is known as the professional corporation act.

The Speaker referred that portion of the Supplemental Report dealing with H.B. 200 to the Committee on Reports of Officers. He referred the portion involving the change in committees to the Reference Committee on Amendments to the Constitution and By-Laws.

There being no unfinished business, the Speaker declared the House open for new business.

E. E. Wadlow, M.D., St. Joseph: I wish to present a resolution as follows:

Whereas, Anthony Celebrezze, Secretary of Health, Education and Welfare, has publicized "We will sell you a hospital insurance policy," and

Whereas, President Kennedy in his messages to Congress speaking of the King-Anderson bill, referred repeatedly to "hospital insurance," and

Whereas, Both of the above mentioned men were speaking pointedly of a proposal to finance partial health care for the aged through the Social Security system thereby increasing the present taxes on workers and employers, and

Whereas, In the Act itself called a "Hospital Insurance Act" they refer on page 62 to the word "taxes" rather than "premiums," and

Whereas, The Amish religious sect, who disavow all forms of insurance on religious grounds, once believed the talk about Social Security being insurance and refused to pay the levy, and

Whereas, The Internal Revenue Service has admitted that the

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numbs the pain...not the patient

**A potent analgesic and
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3. 'Soma' Compound is ideal in these cases. Since it contains both 'Soma' (carisoprodol) and acetophenetidin it is both a potent analgesic and a superior muscle relaxant; it also contains caffeine to offset any drowsiness *("numbs the pain... not the patient")*.

4. Why not try 'Soma' Compound? Dosage is 1 or 2 tablets q.i.d. For more severe pain, try 'Soma' Compound + Codeine. Dosage: 1 or 2 tablets q.i.d.

5. Hypersensitivity to carisoprodol may occur rarely. Codeine may produce addiction, nausea, vomiting, constipation or miosis.

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carisoprodol 200 mg., acetophenetidin 160 mg., caffeine 32 mg.

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carisoprodol 200 mg., acetophenetidin 160 mg., caffeine 32 mg., codeine phosphate 16 mg. (Warning—may be habit forming.)

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CSO-9193

levy was a tax, and placed liens on a number of "delinquent Amish taxpayer account"; three horses belonging to one Amish farmer were seized by I.R.S. and sold "to satisfy the Social Security tax indebtedness," therefore be it

Resolved, That the Missouri State House of Delegates employ all means possible to publicize the fact that the labor socialists and the democratic party are not selling insurance but are in effect attempting to subject the American people to a greater taxation, while at the same time they are attempting to withdraw medical aid for needy and near-needy aged citizens of this country by "undercutting the Kerr-Mills program."

The Speaker referred this resolution to the Reference Committee on Resolutions.

Dr. Wadlow: I wish to present the following resolution:

Whereas, Legislation authorizing voluntary and also involuntary sterilization has been introduced in several states in the union and passed, and

Whereas, It is often necessary medically, legally and also socially to withdraw the right and power of procreation, therefore be it

Resolved, That the House of Delegates of the Missouri State Medical Association instruct the Council to formulate such a bill and stimulate its introduction into the General Assembly to be considered by the state of Missouri.

The Speaker referred this resolution to the Reference Committee on Resolutions.

Dr. Wadlow: I wish to present the following resolution:

Whereas, It has been firmly documented that there have been cases of piracy of drug secrets from some of the United States major drug firms who have spent millions of dollars in the development of new drugs to assist physicians in combating disease, and

Whereas, Certain of these leading drug houses have secured sufficient facts to procure indictments, against certain individuals who were trusted scientific employees, for the sale of secret formulas and technical methods employed in the production of these newer advancements in medicine, and

Whereas, Certain foreign nations now having obtained these secret formulas and procedures are now manufacturing identical drugs and are competing with United States companies who have spent millions of dollars in developing these advancements, and

Whereas, Certain departments in our federal government have been buying these drugs produced by "pirated" information at a much lower cost than offered by American drug houses, who have paid for the research to develop them, and

Whereas, It is the American taxpayers' dollar which is being spent in foreign countries to buy drugs pirated from our own country's companies who have succeeded in developing these advancements, therefore be it

Resolved, That the Missouri State House of Delegates go on record as disapproving the purchase of such drugs from foreign countries in order that our own tax dollars may be spent in United States owned and operated industries which are furnishing employment to our laboring force and where the technical skill and moneys have been made available to develop such newer advancements in medicine, and be it further

Resolved, That a copy of such resolution be forwarded to all our state senators and representatives in Washington, the President of the United States, Defense Secretary McNamara and the AMA.

The Speaker referred this resolution to the Reference Committee on Resolutions.

John A. Griffith Jr., M.D., Kansas City: I wish to present two resolutions, as follow:

RESOLUTION FROM JACKSON COUNTY MEDICAL SOCIETY

Whereas, State Medical Associations have been asked to study the special report on "Compensation of Interns and Residents" submitted to the AMA House of Delegates at its Interim Session in Los Angeles, November, 1962, appearing on page 459, *JAMA*, October 27, 1962, and

Whereas, This report calls for a formula to revise the compensation of house staff physicians from funds provided by the hospital, the attending staff and patients, based on services rendered to each by the house staff and

Whereas, The report further suggests that house staff physicians may be employed by a partnership of the hospital attending staff and

Whereas, Both of these suggestions could remove legal and financial responsibility for educational programs from the institutions which desire graduate medical educational programs and

Whereas, The primary purpose of house staff compensation is to provide educational opportunity for the physician and not to provide service benefits to the institution or the attending staff and

Whereas, Such a variable formula, based on services rendered to hospital, physician and patient, could lead to an application of this formula by certain hospitals that would place them in the practice of medicine, therefore be it

Resolved, That the House of Delegates of the American Medical Association instruct its Council on Medical Education and Hospitals to retain the report "Compensation of Interns and Residents" in its files and records as research and informational material only, and that no further attempt be made to encourage the compensation of the house staff physicians on the basis of services rendered incidental to their education, and be it further

Resolved, That copies of this Missouri State Medical Association resolution be sent to all state medical associations, all members of the AMA House of Delegates and all elected officers of the AMA.

The Speaker referred this resolution to the Reference Committee on Medical Education and Public Welfare.

Dr. Griffith: The second resolution follows:

RESOLUTIONS CONCERNING "LIFETIME LEARNING FOR PHYSICIANS"

Whereas, The primary function of the American Medical Association is to promote the standards of medical education in the United States and

Whereas, At the November 1962 Clinical Session, the House of Delegates approved an informational report on the document "Lifetime Learning for Physicians" which is to be used as a guide for a national program of continuing education and

Whereas, Said document known as the Dryar Report, having been studied carefully since the earlier meeting of the American Medical Association, does place undue emphasis on electronic means of communication together with other commonly used means of communication in education and pays only passing tribute to the many present areas of postgraduate education now planned, developed and implemented by the efforts of Clinical Societies, Speciality groups, national and sectional, the AAGP, State Medical Societies and county medical societies to provide varied and continuing programs of education, therefore be it

Resolved, That all of the above organizations be urged and encouraged by the House of Delegates of the MSMA 105th Annual Session to continue their efforts in postgraduate education, and be it further

Resolved, That the House of Delegates of the MSMA Annual Session go on record as requesting that the action of the House of Delegates of the AMA, concerning the document "Lifetime Learning for Physicians" as a guide for a National Program of Continuing Education, be rescinded, and be it further

Resolved, That the AMA House of Delegates be requested, at the next Annual Session, to submit the Dryar Report to a reference committee for study and the determining of its logical role in Postgraduate Education together with present facilities and efforts existing in American medicine today, and be it further

Resolved, That copies of this resolution be distributed to all Delegates of the AMA together with elected officers of that organization and to each state medical society and major sectional speciality groups and the AAGP.

The Speaker referred this resolution to the Reference Committee on Medical Education and Public Welfare.

George Shull, M.D., Jefferson City: I wish to present the following resolution:

Whereas, The contacts between government and organized medicine are becoming increasingly frequent and intimate, and

Whereas, A progressively important function of the executive staff (of MSMA) is representation of organized medicine to and before various governmental bodies and agencies, and

Whereas, Such representation would be enhanced by the residence of a member of the MSMA executive staff at the seat of government in Jefferson City, now, therefore be it

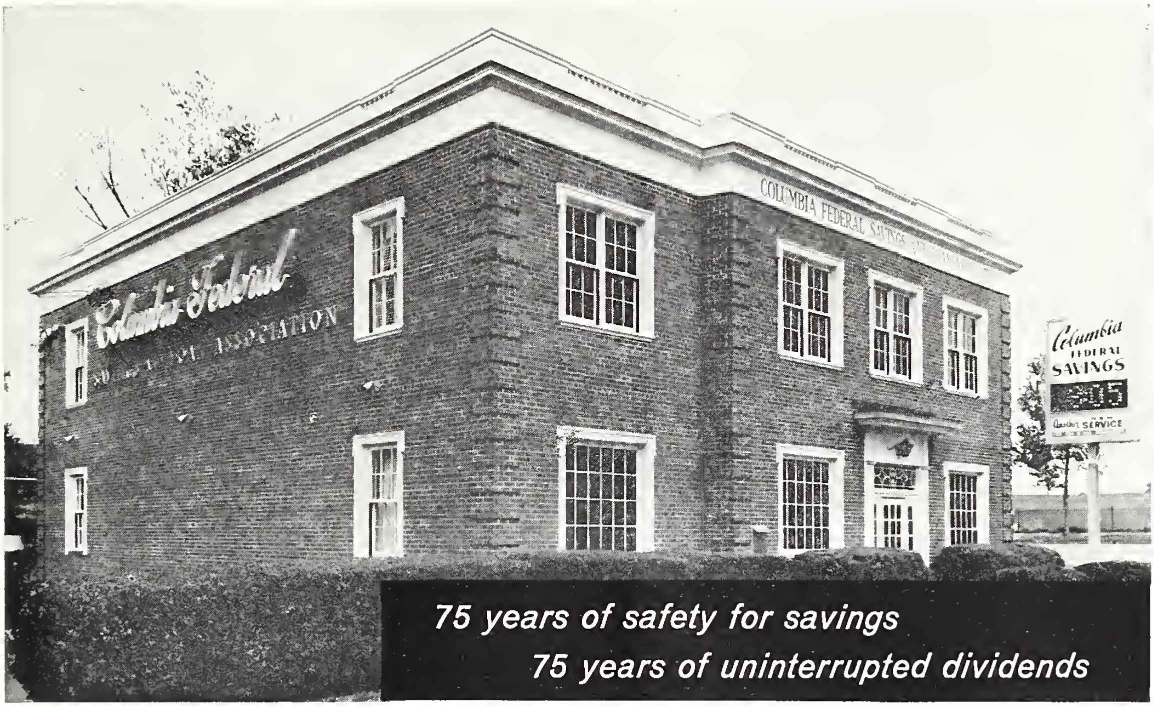
Resolved, That the Council shall make necessary budgetary preparations as required for the 1964 opening of a permanent branch office in Jefferson City, and further, that the Council with the advice of the Executive Secretary, designate and/or employ a full-time member of the executive staff who shall be resident in Jefferson City as an assistant to the Executive Secretary.

The Speaker referred this resolution to the Council.

Stanley S. Peterson, M.D., Springfield: I wish to present the following resolution.

Whereas, The practice of psychotherapy seems to be carried out by psychologists in the State of Missouri, and

Whereas, The Missouri State Medical Association has held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that the practice of psychotherapy is an integral part of the practice of medicine, and

WHEREAS, The practice of medicine can be only by legally licensed physicians, therefore be it

Resolved, That the Missouri State Medical Association determine through proper channels:

1. If psychotherapy is illegally practiced in the State of Missouri, and
2. The proper steps to see that this practice is controlled.

The Speaker referred this resolution to the Reference Committee on Resolutions.

EDWARD D. KINSELLA, M.D., St. Louis: I wish to present the following resolution:

WHEREAS, The Council on Medical Education and Hospitals and the Council on Medical Service of the AMA have called attention to the problem of compensation of interns and residents and made recommendations which will lessen the economic pressure on medical students and upon physicians in training, and

WHEREAS, It is proper that the MSMA make a statement of policy based upon these recommendations, and

WHEREAS, It is proper to preserve the pattern of private practice without conflict with physicians in training, therefore be it

Resolved, That the following statement of the MSMA position be forwarded to the Council on Medical Education and Hospitals of the AMA before the June meeting of the AMA

1. That subject to local hospital staff policy, the professional services rendered to patients in hospitals and attached clinics by physicians who may be interns, residents or fellows in training hereinafter called house officers may be considered to be remunerable when they are acting as an agent of the staff and when responsibility for said service is not assumed by a private physician toward his private patient.
2. Where required, certification of service rendered to a patient may be made by the house officer who shall be acting as an agent of the staff and who shall have personally rendered such service.
3. Bills to patients for services rendered to patients by house officers shall be submitted on their behalf by an agent of the general, attending and active professional staff of the hospital or clinic wherein the service was rendered.
4. Funds received in payment of services to patients by house officers hereinafter referred to as such funds, shall be received, held and expended by an agent of the general, attending and active professional staff of the hospital which shall act on its behalf in the receiving, keeping and expending of such funds, and said agent shall make and the staff shall receive annually an accounting of such funds.
5. The expenditure of such funds shall be for the general and professional welfare of the house officers, on behalf of their education, as a supplement to their income and in support of research in the hospital in which they serve.
6. In no case shall these funds be received by or in any way become assets of the hospital but shall be received, held and expended in accordance with the provisions above.
7. Graduates of approved Medical Schools with state or national board licensure are to be regarded as physicians in postgraduate training and not students.

The Speaker referred this resolution to the Reference Committee on Medical Education and Public Welfare.

Donald M. Dowell, M.D., Chillicothe, President, announced the Committee on Nominations as follows:

COMMITTEE ON NOMINATIONS

C. L. Clark, M.D., Trenton, Chairman.
James Campbell, M.D., Macon.
Charles Sherwin, M.D., St. Louis City.
Robert Mayer, M.D., St. Louis County.
G. W. Winn, M.D., Boonville.
E. L. McCorkle, M.D., Marshall.
Charles Wheeler, M.D., Kansas City.
Kenneth Glover, M.D., Mount Vernon.
B. J. Bass, M.D., Salem
Ben M. Bull, M.D., Ironton.

There being no further business, the session recessed at 3:00 p.m.

Monday, March 25, 1963

The House of Delegates convened at 4:00 p.m. in the Colonial Room, Hotel Muehlebach, Kansas City, with William C. Mixson, M.D., Kansas City, Speaker, presiding.

B. W. Andrews, M.D., Kansas City, reported for the Committee on Credentials as follows: There are present eight officers, 10 Councilors and 119 Delegates.

On motion, duly seconded, the report was adopted.

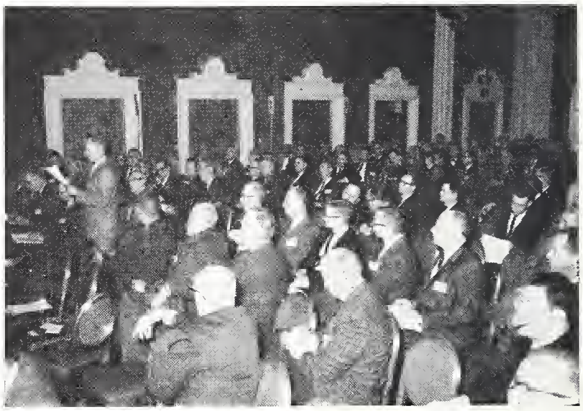
Dr. T. M. Macdonnell, Marshfield, reported for the Reference Committee on Resolutions.

REPORT OF THE REFERENCE COMMITTEE ON RESOLUTIONS

The meeting of the Reference Committee on Resolutions of the Missouri State Medical Association was held at 4:00 p.m. on Sunday, March 24, 1963, in Room 4, Hotel Muehlebach, Kansas City, Missouri, with the following members present: Drs. T. M. Macdonnell, Chairman, Melvin M. Schwartz, Edward Jones, O. W. Cook and E. D. Imes.

The meeting was called to order by T. M. Macdonnell. The first order of business was the reading of six resolutions submitted from the floor of the House of Delegates.

Upon motion duly made and seconded, it was unanimously voted that the following resolution not be accepted in its present form:



Dr. Macdonnell reported for a reference committee.

WHEREAS, Legislation authorizing voluntary and also involuntary sterilization has been introduced in several states in the union and passed, and

WHEREAS, It is often necessary medically, legally and also socially to withdraw the right and power of procreation, therefore be it

Resolved, That the House of Delegates of the Missouri State Medical Association instruct the Council to formulate such a bill and stimulate its introduction into the General Assembly to be considered by the State of Missouri.

Mr. Speaker: I, therefore, move that this resolution be not adopted in its present form.

Upon second, this portion of the report was adopted.

The next resolution reads as follows:

WHEREAS, Anthony Celebrezze, Secretary of Health, Education and Welfare, has publicized "we will sell you a hospital insurance policy," and

WHEREAS, President Kennedy in his messages to Congress speaking of the King-Anderson bill, referred repeatedly to "hospital insurance," and

WHEREAS, Both of the above mentioned men were speaking pointedly of a proposal to finance partial health care for the aged through the Social Security system thereby increasing the present taxes on workers and employers, and

WHEREAS, In the Act itself called a "Hospital Insurance Act" they refer on page 62 to the word "taxes" rather than "premiums," and

WHEREAS, The Amish religious sect, who disavows all forms of insurance on religious grounds, once believed the talk about Social Security being insurance and refused to pay the levy, and

WHEREAS, The Internal Revenue Service has admitted that the levy was a tax, and placed liens on a number of "delinquent Amish taxpayer accounts"; three horses belonging to one Amish farmer were seized by IRS and sold "to satisfy the Social Security tax indebtedness," therefore be it

Resolved, That the Missouri State House of Delegates employ all means possible to publicize the fact that the labor socialists and the Democratic party are not selling insurance but are in effect attempting to subject the American people to a greater taxation, while at the same time they are attempting to withdraw medical aid for needy and near-needy aged citizens of this country by "undercutting the Kerr-Mills program."

After rewording the "resolved" portion of this resolution it was unanimously acceptable to the Reference Committee on Resolutions and its passage recommended by this House of Delegates.

The portion of the resolution was changed to read as follows:

Resolved, That the Missouri State House of Delegates employ all means possible to publicize the fact that the present national administration is not selling insurance, but is in effect attempting to subject the American people to a greater taxation, while at the same time it is attempting to withdraw medical aid for needy and near-needy aged citizens of this country by "undercutting the Kerr-Mills program."

Mr. Speaker, I move the adoption of this reworded resolution.

Upon second, this portion of the report was adopted.

The next resolution reads as follows:

WHEREAS, The practice of psychotherapy seems to be carried out by psychologists in the State of Missouri, and

WHEREAS, The Missouri State Medical Association has held that the practice of psychotherapy is an integral part of the practice of medicine, and

WHEREAS, The practice of medicine can be only by legally licensed physicians, therefore be it

Resolved, That the Missouri State Medical Association determine through proper channels:

1. If psychotherapy is illegally practiced in the State of Missouri, and
2. The proper steps to see that this practice is controlled.

Mr. Speaker: This resolution was unanimously approved by our Committee, and I so move for its adoption.

Upon second, this portion of the report was adopted.

The next resolution is as follows:

WHEREAS, It has been firmly documented that there have been cases of piracy of drug secrets from some of the United States major drug firms who have spent millions of dollars in the development of new drugs to assist physicians in combating disease, and

WHEREAS, Certain of these leading drug houses have secured sufficient facts to procure indictments, against certain individuals who were trusted scientific employees, for the sale of secret formulas and technical methods employed in the production of these newer advancements in medicine, and

WHEREAS, Certain foreign nations now having obtained these secret formulas and procedures are now manufacturing identical drugs and are competing with United States companies who have spent millions of dollars in developing these advancements, and

WHEREAS, Certain departments in our federal government have been buying these drugs produced by "pirated" information at a much lower cost than offered by American drug houses, who have paid for the research to develop them, and

WHEREAS, It is the American taxpayers dollars which is being spent in foreign countries to buy drugs pirated from our own country's companies who have succeeded in developing these advancements, therefore be it

Resolved, That the Missouri State House of Delegates go on record as disapproving the purchase of such drugs from foreign countries in order that our own tax dollars may be spent in United States owned and operated industries which are furnishing employment to our laboring force and where the technical skill and moneys have been made available to develop such newer advancements in medicine, and be it further

Resolved, That a copy of such resolution be forwarded to all our state senators and representatives in Washington, the President of the United States, Defense Secretary McNamara, and the Secretary of State, Dean Rusk, and the AMA.

My Committee changed this resolution by the addition that also a copy should be sent Dean Rusk, Secretary of State.

Mr. Speaker: I move that this resolution be adopted as read.

Upon second, this portion of the report was adopted.

The next resolution reads as follows:

WHEREAS, Proposals for compulsory health care programs using the Social Security System for taxation and provision of benefits have again been introduced in the Congress of the United States as H.R. 3920 and S. 880, and

WHEREAS, The adoption of such programs for one group of our population—persons 65 years of age and over—would be only the first step toward bringing all citizens under a Federally controlled and administered system of socialized medicine, and

WHEREAS, These programs would not allow the physician to make medical judgments without the interference of government agencies and officials, and would take ultimate responsibility for health care away from the private physician and put it in the hands of persons without medical training or experience, and

WHEREAS, Health care costs would increase and the quality of that care would inevitably deteriorate under such circumstances, and

WHEREAS, Voluntary private methods for the financing of health care costs now in existence, or under development, have proven their ability to solve the problems of providing for the expense of health services for the nation's population, including the elderly, and are in harmony with our nation's heritage of individual choice and responsibility, and

WHEREAS, Compulsory, federally controlled programs are alien to that heritage and would destroy the traditional physician-patient relationship, therefore be it

Resolved, That the physicians of Missouri, through the House of Delegates of the Missouri State Medical Association, hereby again reaffirm their opposition to compulsory health care programs for the aged or any other groups of the population provided and administered under the Federal Social Security system, and be it further

Resolved, That copies of this resolution be forwarded to the President of the United States and to members of the Congress from the State of Missouri.

This resolution was unanimously approved by our Committee on Resolutions.

I, therefore, move that this resolution be adopted.

Upon second, this portion of the report was adopted.

Mr. Speaker: I move that this report as a whole be adopted.

Upon second, the report as a whole was adopted.

C. G. Stauffacher, M.D., Sedalia, gave the report of the Reference Committee on Amendments to the Constitution and By-Laws.

REPORT OF THE REFERENCE COMMITTEE ON AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

The Reference Committee on Amendments to the Constitution and By-Laws met at 4:45 p.m., Room 3, Hotel Muehlebach, on March 24, 1963. The following members were present: Drs. C. G. Stauffacher, Chairman; Theodore F. Edwards, R. R. Lyle, James E. Campbell and M. K. Underwood.

The supplementary report of the Council, presented by Dr. Leonard T. Furlow, Chairman of the Council, concerning the elimination of the Committee on Hospital and Professional Relations was unanimously approved as follows: Amend Chapter VII. Committees—page 6 of the By-Laws, by deleting the following: "A Committee on Hospital and Professional Relations," and further amend Chapter VII. Committees—page 8 of the By-Laws, by deleting the following: "The Committee on Hospital and Professional Relations shall consider matters relating to the practice of medicine in hospitals."

Mr. Speaker, I move the adoption of this portion of the report to lie on the table for one day.

Kenneth Glover, M.D., Mount Vernon, gave the report of the Reference Committte on Miscellaneous Affairs.

REPORT OF THE REFERENCE COMMITTEE ON MISCELLANEOUS AFFAIRS

The Reference Committee on Miscellaneous Affairs met in Room 363, Hotel Muehlebach, Sunday, March 24, at 3:00 p.m., with all members of the Committee present.

The Committee considered the report of the Committee on Public Service as published in the Delegate's Handbook, also the supplemental report of the joint Committee on Public Service, Medical Economics and Aging, also the outline for further implementation of the Kerr-Mills law and the outline for opposition to King-Anderson type of legislation. All were approved by the Committee.

Mr. Speaker, I move the adoption of this portion of the report.

Upon second, this portion of the report was adopted.

The Report of the Committee on Medical Economics, as it appeared on page 28 of the Committee Report booklet, was approved by the Committee.

Mr. Speaker, I move the adoption of this portion of the report.

Upon second, this portion of the report was adopted.

The Report of the Committee on Mental Health, which appears on page 9 of the Committee Report booklet, and pages 18 and 39 of the Council Report booklet, was considered by the Committee. The Committee favors the report which includes the use of senior osteopathic students for one year in state institutions, the results of which are to be reevaluated at the end of that year and reported back to the committee and the Council, provided such services cannot be furnished by senior medical students of schools of our own state.

We also recommend that feature of the report on prepaid insurance.

The Committee also favors the establishment of the three rapid treatment centers.

Mr. Speaker, I move the adoption of this portion of the report.

Upon second, this portion of the report was adopted.

The Reference Committee on Miscellaneous Affairs met.

The report of the Committee on Corporate Practice was considered by the Committee. The Committee approved the report as printed in the Council Booklet on page 30.

Mr. Speaker, I move the adoption of this portion of the report.

Upon second, this portion of the report was adopted.

Since the Committee on Defense did not meet during the year and had no report, no action was taken on this.

Mr. Speaker, I move the adoption of this report in toto.

Upon second, the report in toto was adopted.

William H. Bailey, M.D., St. Louis, gave the report of the Reference Committee on Necrology.

REPORT OF THE REFERENCE COMMITTEE ON NECROLOGY

Whereas, There have been 93 deaths among our members since the last annual Session, many of them at advanced ages and after many years of active practice in medicine, many who were in the prime of their practice and some quite young, and

Whereas, Each member is missed personally and for contribution to the practice of medicine, and

Whereas, The loss of these members is felt by all members and keenly by those who were close to them, and

Whereas, Condolences have been sent to the family of each deceased member, therefore be it

Resolved, That condolences continue to be sent to each family, and be it further

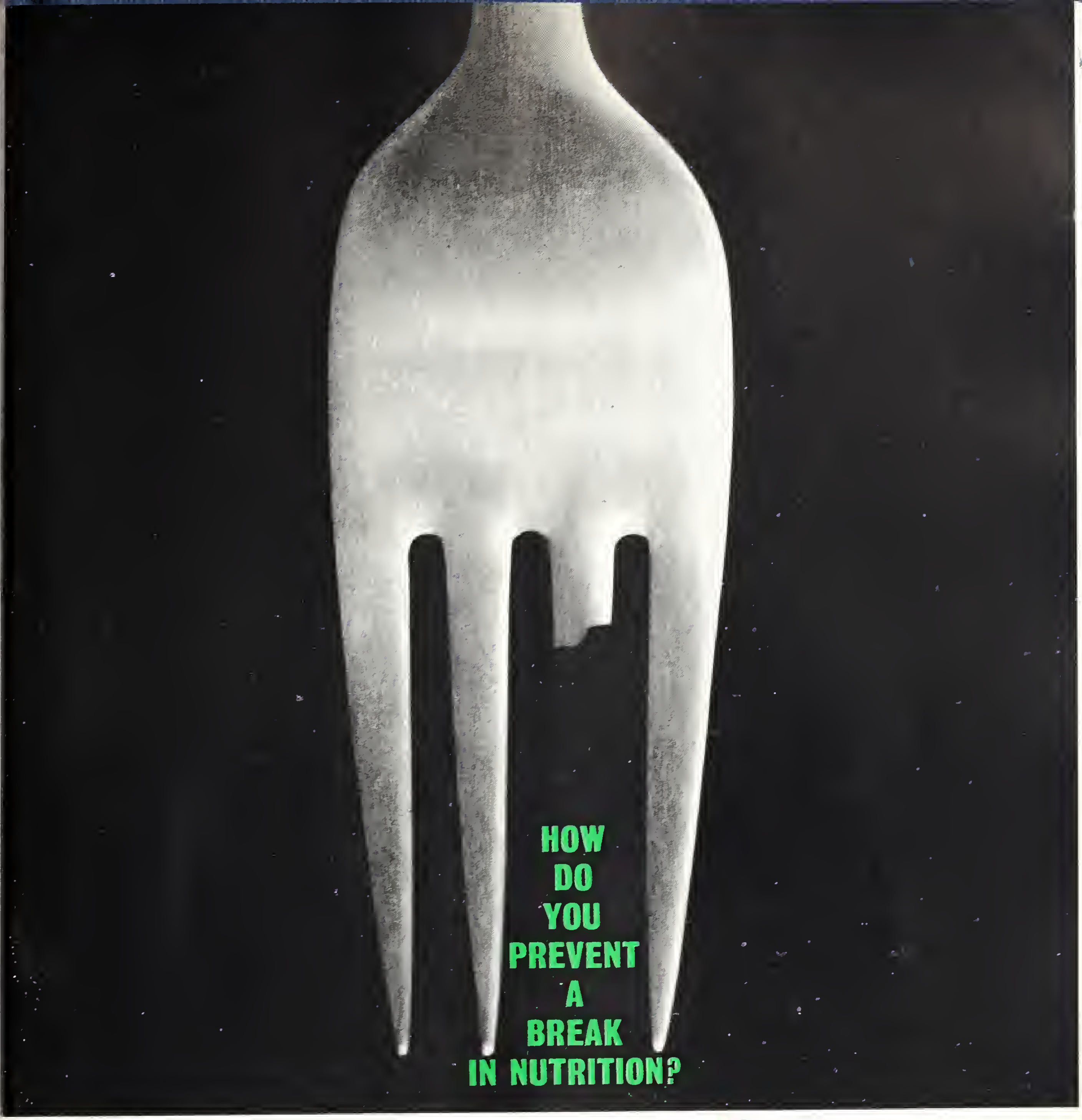
Resolved, That the House of Delegates stand for a moment in memory of those we have lost and whose names will appear in the minutes of the Annual Session.

I move the adoption of this resolution.

Upon second, the resolution was adopted.

Members Deceased Since the 1962 Session

Roberson, John H., M.D., Lilbourn
Gundlach, Arthur, M.D., Creve Coeur
Dripps, Roy C., M.D., St. Louis
Border, Charles T., M.D., Garland, Tex.
Rotter, Julius C., M.D., St. Louis
Curran, Kevin E., M.D., Kansas City
Honich, Nicholas J., M.D., St. Louis
Lewellen, Charles P., M.D., Louisiana
Stecker, George, M.D., St. Louis
Fletcher, Paul F., M.D., University City
Cline, Edward W., M.D., Poplar Bluff
Stine, Dan G., M.D., Columbia
H'Doubler, Francis T., M.D., Springfield
Simpson, Gary L., M.D., St. Louis
Hans, Willard J., M.D., St. Louis
Lowe, Horace A., M.D., Springfield
Bolin, N. Venay, M.D., Shawnee Mission, Kan.
Upshaw, Paul O., M.D., Springfield
Dowell, Horace S., M.D., Chillicothe
Simon, Bettie H., M.D., Clayton
Knabb, Henry F. Sr., M.D., Coral Gables, Fla.
Hart, Pearl V., M.D., Coatsville
Barber, John J., M.D., Corrigan, Tex.
Davis, Myron W., M.D., University City
Calvert, Lewis C., M.D., Weston
Conover, Charles C., M.D., Shawnee Mission, Kan.
Jennett, Harry N., M.D., Kansas City
Williams, Delon A., M.D., Kansas City
Seabaugh, D. Rusby, M.D., Cape Girardeau
Fraser, Sydney A., M.D., St. Louis
Stocking, Lyman C., M.D., Kirkwood
Puckett, Cordelia A., M.D., Saunderstown, R.I.



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Mastin, E. Vernon, M.D., St. Louis
Costen, James B., M.D., St. Louis
Liggett, Hiram S., M.D., St. Louis
Schrepel, Herbert O., M.D., St. Louis
Suggett, Finis C., M.D., Columbia
Yost, Walter B., M.D., St. Louis
Drace, James J., M.D., Cape Girardeau
Luman, Frank E., M.D., Edina
Ellery, William L., M.D., LaGrange
Smith, Ulysses S., M.D., Hannibal
Belsey, Wallace A., M.D., Campbell
King, Samuel J., M.D., St. Louis
Hanford, Wesley W., M.D., St. Louis
Maples, Floyd H., M.D., Springfield
Wall, Arthur H., M.D., Sierra Madre, Calif.
McPherson, Owen P., M.D., Grandview
Nichols, Frank J., M.D., Fulton
Sample, George A., M.D., Chaffee
Carney, Joseph E., M.D., St. Louis
Keim, John P., M.D., St. Louis
Clancy, James F., M.D., St. Louis
Kloeppel, Carl F., M.D., St. Louis
Paddock, Richard, M.D., St. Louis
Martin, Raymond T., M.D., St. Louis
Shepherd, Phillip M., M.D., Ava
Van Cleve, John D., M.D., Malden
Kountz, Wm. B., M.D., St. Louis
Funsch, Edwin C., M.D., St. Louis
Young, Leo P., M.D., St. Louis
Sullivan, B. Hazard, M.D., Lawrence, Kan.
Kerr, Russell W., M.D., Kansas City
Flanders, Horace F., M.D., Kansas City
Holman, Jurney H., M.D., Fulton
Woodruff, Frederick E., M.D., St. Louis
Sterling, Charles E., M.D., St. Louis
Weger, Carl C., M.D., Keytesville
Henrickson, Hardin N., M.D., Poplar Bluff
Eidmann, Walter P., M.D., St. Louis
Long, Charles L. Jr., M.D., St. Louis
Allen, Charles H., M.D., Kansas City
Bridges, James R., M.D., Kahoka
Roe, Allen, M.D., Berger
Bee, James E., M.D., Mission, Kansas
Zahorsky, John, M.D., Steelville
Wegner, Carl, M.D., St. Louis
Miller, Walter P., M.D., Kansas City
Sultzman, Francis E., M.D., Hannibal
Allen, Horace E., M.D., Columbia
Curl, Howard E., M.D., Joplin
Wilcox, Claude V., M.D., St. Louis
Walsh, William T., M.D., Morgantown, W. Va.
DePew, Heber B., M.D., St. Louis
Gestring, Hugh A., M.D., Kansas City
Roebber, Harry M., M.D., Flat River
Small, Walter L., M.D., Kansas City
Nix, Winston K., M.D., Marshall
Sandy, Charles, M.D., Prairie Village, Kan.
Maas, Herman, M.D., St. Louis
Robertson, LeRoy L., M.D., St. Louis
Harwell, James L., M.D., Poplar Bluff
Luppens, Albert F., M.D., Lee's Summit

Leonard T. Furlow gave the report of the Council.

REPORT OF THE COUNCIL

The Council met at noon in the Music Room to consider the following resolution presented to the House of Delegates by the Cole County delegation at yesterday's session.

The resolution reads as follows:

> Whereas, The contacts between government and organized medicine are becoming increasingly frequent and intimate, and
> Whereas, A progressively important function of the executive staff (of MSMA) is representation of organized medicine to and before various governmental bodies and agencies, and
> Whereas, Such representation would be enhanced by the residence of a member of the MSMA executive staff at the seat of government in Jefferson City, now, therefore be it
> *Resolved*, That the Council shall make necessary budgetary preparations as required for the 1964 opening of a permanent branch office in Jefferson City, and further, that the Council with the advice of the Executive Secretary, designate and/or employ a full-time member of the executive staff who shall be resident in Jefferson City as an assistant to the Executive Secretary.

After considerable discussion and upon advice of legal counsel, it was decided that this resolution had been properly referred to the Council by the speaker of this House because of the following provision in the Constitution of this organization:

Article VIII. Funds, Expenses and Budget (appears the following:)

"All resolutions providing for appropriations shall be referred to the Council and all appropriations approved by the Council shall be included in the annual budget."

After due deliberation, it was the opinion of the Council that its action should be to refer this matter back to the Speaker of this House for assignment to a reference committee without recommendation of the Council so that proper public hearings may be held.

The Speaker referred this report to the Reference Committee on Miscellaneous Affairs.

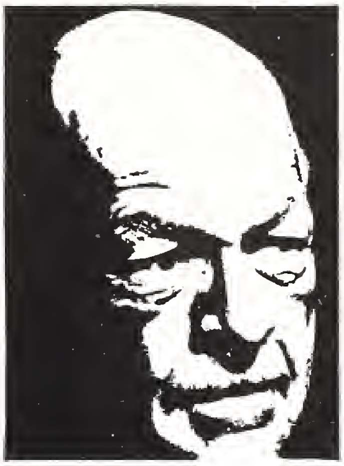
The new President received congratulations.

Charles Sherwin, M.D., St. Louis: I wish to present two resolutions.

> Whereas, The House of Delegates of the AMA at the 1962 Clinical Session has recommended to the Council on Medical Education and Hospitals that serious consideration be given to disapproving the intern training program of a hospital which for two successive years has not had at least 25 per cent of its total house staff as graduates of accredited U. S. or Canadian Medical Schools; and
> Whereas, Enforcement of such a rule would jeopardize the medical care in those non-affiliated hospitals who have good educational programs but have been unsuccessful in attracting U. S. or Canadian Medical School graduates; and
> Whereas, It is the opinion of the House of Delegates of the MSMA that a training program in a hospital should be judged on its merits and not on the nativity of its house staff; and
> Whereas, The needs of the Armed Services are continually depleting the house staffs of American school graduates; therefore be it

The new or early hypertensive patient

The middle-aged hypertensive woman



The geriatric hypertensive patient

The overweight hypertensive patient

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Product Information: 'Capla' (mebutamate) is indicated for control of hypertension, either alone in mild cases, or in conjunction with diuretics or peripherally acting hypotensive agents in more severe cases. Its mild tranquilizing properties are often found an additional benefit to its antihypertensive action.

Drowsiness and occasional lightheadedness, usually transient, are often signs of dosage higher than necessary for therapeutic effect. There are no known contraindications to mebutamate.

Usual Dosage: One 300 mg. tablet 3 or 4 times daily, before meals and at bedtime. Dosage should be adjusted to individual requirements; for example, older patients may require lower dosage.

Composition: Each tablet contains mebutamate, 300 mg.

Supplied: Bottles of 100 white, scored tablets. Literature and samples to physicians on request.

References: 1. Corcoran, A. C., and Loyke, H. F.: J.A.M.A. *181*:1043, Sept. 22, 1962. 2. Costello, A. C.: M. Times *91*:53, Jan. 1963. 3. Holloman, J. L. S., Jr.: J. Nat. M. A. *54*:94, Jan. 1962. 4. Kheim, T., and Kountz, W. B.: New York J. Med. *62*:1596, May 15, 1962. 5. Leslie, C. H.: J. Am. Geriatrics Soc. *10*:85, Jan. 1962. 6/63 63WL36K-12

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Resolved, That the House of Delegates of MSMA instruct the Missouri delegates to the AMA to introduce a resolution at the 1963 annual session of the AMA to retract the above recommendation to the Council on Medical Education and Hospitals.

The Speaker referred this resolution to the Reference Committee on Medical Education and Public Welfare.

DR. SHERWIN: The other resolution follows:

WHEREAS, Many hospitals have, in effect, approved postgraduate training programs for physicians, and

WHEREAS, These programs utilize in part patients admitted to the ward services to whom professional services are rendered freely by the medical staff, but

WHEREAS, Some hospitals have entered or may enter into contracts or agreements with lay organizations to provide paid-in-full hospital and professional, medical care through such teaching programs, and

WHEREAS, This constitutes the practice of medicine by a hospital through its teaching program, and

WHEREAS, This violates the long accepted principles of the practice of medicine in this country, therefore be it

Resolved, That the House of Delegates of Missouri State Medical Association goes on record as being unalterably opposed to any contract, written or oral, entered into by the governing board of a hospital or representatives of the medical staff of any hospital with any lay organization for the professional services of the consulting, active, associate, or courtesy staff and/or the interns and residents in training.

The Speaker referred this resolution to the Reference Committee on Medical Education and Public Welfare.

50 Year Club luncheon was held Monday noon.

CHARLES WHEELER, M.D., Kansas City: I wish to present the following resolution:

WHEREAS, The doctors are increasingly aware of and concerned with injuries and fatalities resulting from accidents on the highways of the State of Missouri, and

WHEREAS, It is apparent that by regulatory and statutory means the State has it within its power to reduce the incidents of such accidental injuries and death, now therefore be it

Resolved, That the House of Delegates commends the efforts now being generally made by the Governor of the State of Missouri and members of the General Assembly to enact measures that will safeguard the people of Missouri on its public highways.

The Speaker referred this resolution to the Reference Committee on Resolutions.

The Speaker announced that the Missouri State Medical Foundation would meet in Room 3 immediately following the House of Delegates.

Reference Committee meeting rooms were announced and the House adjourned.

Wednesday, March 27, 1963

The House of Delegates was called to order by the Speaker, William C. Mixson, M.D., Kansas City, in the Colonial Room, Hotel Muehlebach, Kansas City, following breakfast.

B. W. Andrews, M.D., Kansas City, reported for the Committee on Credentials as follows: There are present six officers, 10 Councilors and 125 Delegates.

On motion, duly seconded, the report was accepted.

On motion, duly seconded, the report of the Committee on Credentials was accepted as a roll call.

On motion, duly seconded, the reading of the minutes was dispensed with.

Dr. C. L. Clark, Trenton, reported for the Committee on Nominations.

REPORT OF THE COMMITTEE ON NOMINATIONS

For Vice Presidents: M. K. Underwood, M.D., Rolla; Carl R. Ferris, M.D., Kansas City, and Paul F. Max, M.D., St. Louis.

Dr. Wheeler (center) moderated a panel on "Malpractice and You" presented by Mr. Kilroy and Mr. Carter.

There being no nominations from the floor, on motion, duly seconded, these officers were declared elected.

For Delegates to the AMA for a term beginning Jan. 1, 1964, Richard H. Kiene, M.D., Kansas City, and A. W. Neilson, M.D., St. Louis, with Rolla B. Wray, M.D., Nevada, and Robert Kelley, M.D., St. Louis, as alternates.

There being no nominations from the floor, on motion, duly seconded, these officers were elected.

For Speaker of the House of Delegates, William C. Mixson, M.D., Kansas City; Vice Speaker, Stanley S. Peterson, M.D., Springfield.

There being no nominations from the floor, on motion, duly seconded, these officers were declared elected.

Upon motion, duly seconded, the report of the Committee on Nominations was accepted.

CHARLES SHERWIN, M.D., St. Louis: I would like to place in nomination for President of the Association the name of a former President of the St. Louis Medical Society, Dr. Leonard T. Furlow. Dr. Furlow has been a member of the Council for several years. He has been a devoted servant of the medical profession and I know he will make an excellent President of the Association.

The nomination was duly seconded.

O. P. HAMPTON, M.D., University City: I move that

(Continued on page 654)

Skin Deep

Allergic and inflammatory dermatoses, including psoriasis, have in many patients shown dramatic response to ARISTOCORT Triamcinolone systemic therapy. But it also provides gratifying symptomatic control with only minimal interference with other metabolic functions. In this respect, ARISTOCORT Triamcinolone, when compared with other corticosteroids, old and new, is distinguished. Typical steroid problems of sodium retention and edema, undesirable euphoria, or voracious appetite and excessive weight gain rarely occur.

ARISTOCORT Triamcinolone is indicated when anti-inflammatory, anti-allergic action of glucocorticoids is desired. SIDE EFFECTS of glucocorticoids generally: Cushingoid effects, hirsutism, leucopenia, purpura, vertigo, fatigue, increased hyperglycemia, osteoporosis, gastrointestinal hemorrhage, cataracts, growth suppression in children and increased intracranial pressure. Other glucocorticoid effects thought more likely to occur with triamcinolone: reversible weakness of muscles and flushing of face.

PRECAUTIONS: ARISTOCORT Triamcinolone should be used with extreme caution in viral infection, particularly herpes simplex and chicken pox, in tubercular or fungal infection, in active peptic ulcer, acute glomerular nephritis or myasthenia gravis.

FORMULA—Tablets (scored) containing 1 mg., 2 mg. or 4 mg. of triamcinolone. Syrup — 2 mg. of triamcinolone diacetate per 5 cc. (5 mg. of triamcinolone diacetate is equivalent to 4 mg. of triamcinolone).

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the nominations be closed and the Secretary be instructed to cast a unanimous vote that Leonard T. Furlow be elected President-Elect by acclamation.

This motion was duly seconded and passed.

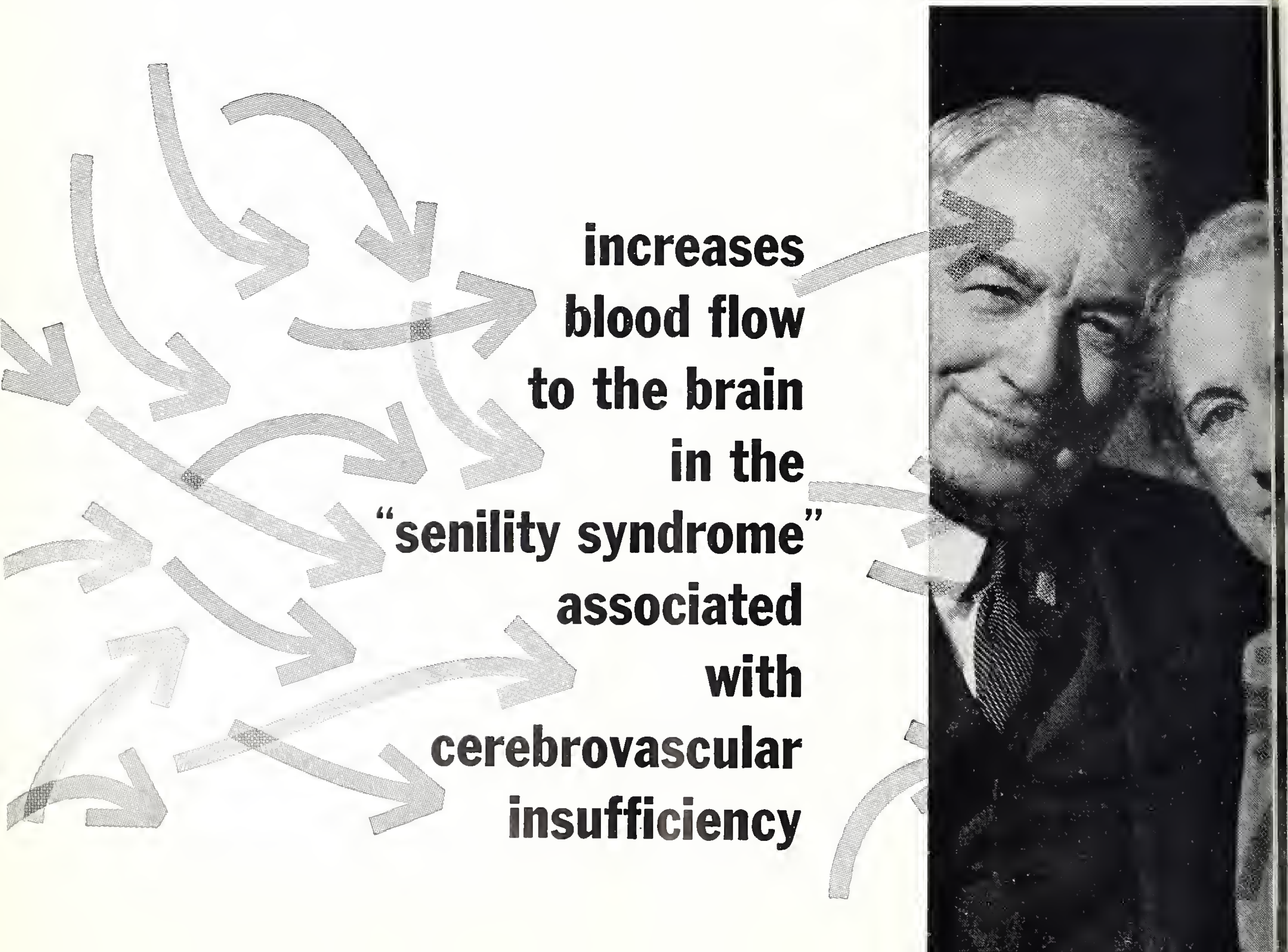
THE SPEAKER: It is so ordered.

LEONARD T. FURLOW, M.D., St. Louis: Mr. Speaker and members of the House of Delegates, I guess I cannot honestly say I am surprised by this honor you have conferred upon me, because I had heard some rumors. A few people have been a little premature in their congratulations, and I did have an inkling this was about to occur. I am, nonetheless, grateful for this honor which you have given me.

The new President-Elect Furlow approached the rostum.

It is a little unusual at times for an individual who has been engaged in a specialty which is as limited as mine to be selected for an honor such as this, but I can assure you I have had some other experiences which make me fitted to understand the problems of all of you. For five years before I went into neurological surgery, I was a general practitioner in a small town in the State of Florida. So, I have had experiences on both sides of the fence, the out-state and the big town. I can assure you

Dr. Furlow spoke briefly to the House of Delegates.



that during the term of my office, if I can prevent it, there will be no conflicts between out-state and metropolitan areas, and I hope that we can continue to move forward in the accomplishments of big things as we have in the past. I realize that this task has made it all the more difficult because of the wonderful presidents who have preceded me, but I can only say that I hope to live up to the pattern which they have set. Thank you very much.

The following election of Councilors was reported by Dr. John I. Matthews, Jefferson City; Second District, Harry L. Greene, M.D., Hannibal; Fourth District, Paul R. Whitener, M.D., St. Louis; Sixth District, O. B. Barger, M.D., Harrisonville; Eighth District, Doyle C. McCraw, M.D., Bolivar; Tenth District, W. D. English, M.D., Cardwell.

Dr. T. M. Macdonnell, Marshfield, gave the report of the Reference Committee on Resolutions.

REPORT OF THE REFERENCE COMMITTEE ON RESOLUTIONS

The Reference Committee on Resolutions met on Monday, March 25, at 5:00 p.m. and considered the resolution regarding highway safety, as follows:

Whereas, The doctors are increasingly aware of and concerned with injuries and fatalities resulting from accidents on the highways of the State of Missouri, and

Whereas, It is apparent that by regulatory and statutory means the State has it within its power to reduce the incidents of such accidental injuries and death, now therefore be it

Resolved, That the House of Delegates commends the efforts now being generally made by the Governor of the State of Missouri and members of the General Assembly to enact measures that will safeguard the people of Missouri on its public highways.

The Committee approved the resolution and I move that it be adopted.

Upon second, the resolution was adopted.

Dr. Macdonnell: Mr. Speaker, the following is for your information and not for action by the House of Delegates. This was in our portfolio and it was considered and felt perhaps it should be given some attention on the floor if nothing more than recognition. The information as printed in the Delegates' Handbook concerning the osteopathic licensing was discussed and considered by the Committee on Resolutions and it was felt that no action was indicated by this Committee. It is gratifying to note, however, that our Attorney General has ruled against the legality of the State of Missouri conferring M.D. licenses on osteopathic physicians from California who receive their M.D. licenses only through the act of the California legislature.

Also, after much discussion during the Committee hearing, it became increasingly apparent to this Committee that chiropractic is a cult and that the fraternization and close consultation and referral back and forth between chiropractors and M.D. physicians in the state should be strongly condemned as an unethical practice.

Dr. Edward Kinsella, St. Louis, gave the report of the Reference Committee on Medical Education and Public Welfare.

REPORT OF THE REFERENCE COMMITTEE ON MEDICAL EDUCATION AND PUBLIC WELFARE

The Reference Committee on Medical Education and Public Welfare met at 10:00 o'clock a.m., March 26,

Inadequate cerebral blood flow—often due to cerebral arteriosclerosis—may result in the "senility syndrome" with its pattern of mental confusion, memory lapses, depression, fatigue, apathy and behavior problems.[1-3]

43% increase in cerebral blood flow[4]

In patients with cerebrovascular insufficiency, Eisenberg[4] measured a 43 percent increase in blood flow in the brain following administration of Arlidin (nylidrin HCl) orally for more than two weeks beginning with a dosage of 12 mg. t.i.d. and increasing to 18 mg. t.i.d. There was a decrease in cerebral vascular resistance in most instances.

Winsor and associates[3] found Arlidin (nylidrin HCl) "of particular value clinically in relieving some of the symptoms of cerebral vascular insufficiency (vertigo, lightheadedness, mental confusion, diplopia)."

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SUMMARY: Indicated whenever an increase in blood supply is desirable in circulatory insufficiencies of the extremities, brain, eye and ear. Use with caution in the presence of a recent myocardial lesion, severe angina pectoris and thyrotoxicosis. Contraindicated in acute myocardial infarction.

REFERENCES: 1. Madow, L.: Penn. M. J. 62-861, June 1959. 2. Stieglitz, E. J.: Geriatric Medicine, ed. 2, Philadelphia, Saunders, 1949 p. 274. 3. Winsor, T., et al.: Amer. J. Med. Sciences 239:594, May 1960. 4. Eisenberg, S.: ibid, July 1960.

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1963, in Room 4 of the Muehlebach Hotel. Members present were W. Stelmach, R. Ladenson, E. E. Wadlow, W. H. Snead Jr., and E. D. Kinsella, Chairman.

After extensive hearings and thorough consideration, the Committee recommends the adoption of the following resolution:

Whereas, Many hospitals have, in effect, approved postgraduate training programs for physicians, and

Whereas, These programs utilize in part patients admitted to the ward services to whom professional services are rendered freely by the medical staff, but

Whereas, Some hospitals have entered or may enter into contracts or agreements with lay organizations to provide paid-in-full hospital and professional medical care through such teaching programs, and

Whereas, This constitutes the practice of medicine by a hospital through its teaching program, and

Whereas, This violates the long accepted principles of the practice of medicine in this country, therefore be it

Resolved, That the House of Delegates of Missouri State Medical Association goes on record as being unalterably opposed to any contract, written or oral, entered into by the governing board of a hospital or members of the medical staff of any hospital with any lay organization for the professional services of the consulting, active, associate, or courtesy staff and/or the interns and residents in training.

Mr. Chairman, I move the adoption of this portion of this report.

The motion was duly seconded.

The Committee on Maternal Welfare luncheon was well attended.

John Martin, M.D., St. Joseph: Mr. Speaker, I would like to offer the following amendment: "And be it further resolved that a copy of this resolution be sent to: The Council on Education and Hospitals of the AMA, the Judicial Council of the AMA, the Board of Trustees of the AMA, the American Hospital Association and the Missouri Hospital Association."

On motion, duly seconded the amendment was adopted.

Upon vote, the resolution as amended was adopted.

Mr. Chairman, the Committee likewise recommends the adoption of the following resolution:

Whereas, The House of Delegates of the AMA at the 1962 Clinical Session has recommended to the Council on Medical Education and Hospitals that serious consideration be given to disapproving the intern training program of a hospital which for two successive years has not had at least 25 per cent of its total house staff as graduates of accredited U. S. or Canadian Medical Schools, and

Whereas, Enforcement of such a rule would jeopardize the medical care in those non-affiliated hospitals which have good educational programs but have been unsuccessful in attracting U. S. or Canadian Medical School graduates, and

Whereas, It is the opinion of the House of Delegates of the MSMA that a training program in a hospital should be judged on its merits and not on the nativity of its house staff, and

Whereas, The needs of the Federal Government are continually withdrawing members of the house staff who are graduates of U. S. schools, therefore be it

Resolved, That the House of Delegates of MSMA instruct the Missouri delegates to the AMA to introduce a resolution at the 1963 annual session of the AMA to retract the above recommendation to the Council on Medical Education and Hospitals.

Mr. Chairman, I move the adoption of this portion of the report.

Upon second, the motion was adopted.

Mr. Chairman, I recommend the adoption of this report as amended as a whole.

Dr. Kenneth Glover, Mount Vernon, gave the report of the Reference Committee on Miscellaneous Affairs.

REPORT OF THE REFERENCE COMMITTEE ON MISCELLANEOUS AFFAIRS

The meeting of the Miscellaneous Affairs Committee of the Missouri State Medical Association was held in the Colonial Room, Hotel Muehlebach, Kansas City, Missouri, at 5:00 p.m. March 25, 1963 to consider the resolution which came from Cole County.

"That the Council with the advice of the Executive Secretary, designate and/or employ a fulltime member of the executive staff who shall be resident in Jefferson City as an assistant to the Executive Secretary."

Fifty year physicians received their emblems at the banquet.

After hearing many speakers pro and con, the Committee recommends that this resolution be returned to the Council for further study with a request that a report be made to this House of Delegates at its annual meeting in 1964.

I move the adoption of this report.

The motion was seconded.

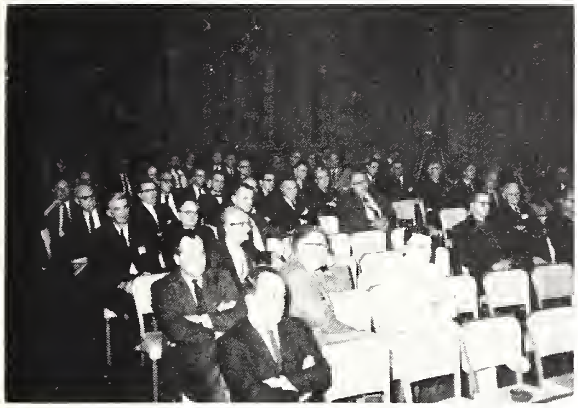
John Martin, M.D., St. Joseph: I would like to amend this report as read to change the words "with a request" and inserting the words "with instruction." I move the adoption of this amendment.

The amendment was duly seconded, but on vote was lost.

The report of the Committee on vote was adopted.

Speaker: We have the following amendment to the By-Laws which has lain on the table for the required day: Amend Chapter VII. Committees, by deleting the following "A Committee on Hospital and Professional Relations," and further amend Chapter VII. Committees —by deleting the following: "The Committee on Hospital and Professional Relations shall consider matters relating to the practice of medicine in hospitals."

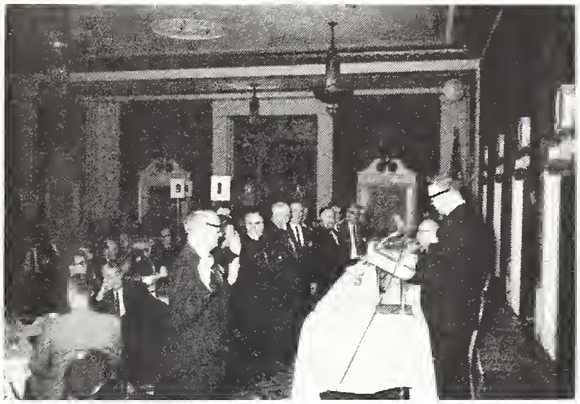
On motion, duly seconded, the amendment was adopted by a majority in excess of two thirds of the Delegates present and voting.



Audiences were attentive.

The newly elected officers of the Association were installed.

Kenneth C. Hollweg, M.D., Kansas City, read the appointments to committees to fill expired terms and chairmenships, which were approved by the House.



The new officers were installed.

COMMITTEE APPOINTMENTS 1963

Scientific and Postgraduate Work—John I. Matthews, Jefferson City, Chairman; J. F. McDonnell, Kansas City. Associate Members: Melvin C. Kasten, Cape Girardeau; John J. Modlin, Columbia; Robert W. Smith, Marceline; Richard W. Yore, St. Louis; Robert F. Wortmann, Kansas City, Edward Kinsella, St. Louis.

Defense—W. W. Gist, Kansas City, Chairman; Max S. Franklin, St. Louis.

Medical Education and Hospitals—William A. Knight Jr., St. Louis, Chairman; Ralph Perry, Kansas City. Associate Member: Willard Bartlett, St. Louis.

Cancer—Charles E. Lockhart, Springfield, Chairman; Joseph L. Fisher, St. Joseph. Associate Members: E. J.

★

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Schewe, Columbia; H. C. Stricker, Jefferson City; Henry C. Allen, St. Louis; G. Neil Berry, Kansas City.

Medical Economics—John Forgrave, St. Joseph, Chairman; G. W. Winn, Boonville; Martin P. Hunter, Kansas City. Associate Members: Kenneth E. Knabb, Springfield; E. T. Hansbrough, Poplar Bluff; Rae W. Froelich, Lebanon; Chester L. Clark, Trenton.

Mental Health—George W. Forman, St. Joseph, Chairman; James N. Haddock, Webster Groves; Henry V. Guhleman, Jefferson City; William I. Stryker, St. Louis; D. R. Edwards, Sedalia; William F. Clary, Springfield; George H. Lawrence, St. Louis; James M. A. Weiss, Columbia; Robert S. Terrill, Kansas City; Dewey K. Ziegler, Kansas City.

Maternal Welfare—A. C. Trueblood, Clayton, Chairman; Irwin T. Craig, Joplin. Associate Members: C. G. Stauffacher, Sedalia; E. E. Wadlow, St. Joseph; Paul E. Kratz, Cape Girardeau; J. J. Wimp, Kirksville; MacDonald Bonebrake, Springfield; Eugene G. Hamilton, St. Louis; Robert S. Brown, Kansas City; Seymour Monat, St. Louis; Leonard A. Wall, Kansas City.

Infant and Child Care—James A. Kinder, Cape Girardeau, Chairman; E. J. Schwartz, Springfield; Daniel B. Landau, Hannibal; H. E. Petersen, St. Joseph; R. J. LaDriere, St. Louis; Guy N. Magness, University City; Clement E. Brooke, Columbia; James J. Pascoe, Nevada; Jack N. Wiles, West Plains; S. F. Cockerell, Independence.

Constitution and By-Laws—W. A. Bloom, Fayette, Chairman.

Trauma—Robert E. Funsch, St. Louis, Chairman; Wilbur McDonald, St. Joseph; Thomas G. Otto, Cape Girardeau. Associate Members: Howard J. McAlhaney, Springfield; Otis E. James, Kansas City; Glenn McElroy, Columbia.

Eye Health—John McLeod, Kansas City, Chairman; Paul G. Wolff, Cape Girardeau; Associate Members: Dick H. Underwood, Kansas City; S. Albert Hanser, St. Louis; Paul M. Beck, St. Joseph; D. E. Eggleston, Macon; W. L. Post, Joplin; John A. Buesseler, Columbia; George Mandler, Chillicothe; Robert S. Minton, St. Joseph.

Laboratory Medicine—Henry Sweets, Hannibal, Chairman; David F. Gorelick, Springfield; T. J. Cooper, St. Louis.

Industrial Health—William H. Duncan, Kansas City, Chairman; Douglas A. Ries, St. Louis; R. A. Sutter, University City. Associate Members: James W. Clawson, Springfield; Van W. Taylor, Bonne Terre; William Macon, St. Louis.

Diabetes—H. E. Oppenheimer, Clayton, Chairman; Harold K. Roberts, St. Louis. Associate Members: William H. Olmsted, St. Louis; Ralph S. Casford, Kansas City; Thomas W. Burns, Columbia; Robert E. Koch, Clayton.

Anesthesiology—W. W. Tillman, Springfield, Chairman; Carl K. Ness, St. Joseph. Associate Members: Kenneth K. Keown, Columbia; George Weeks, Cape Girardeau.

Control of Venereal Disease—Edwin M. Powell, Springfield, Chairman; Robert B. Bristow, St. Joseph. Associate Members: E. A. Belden, Jefferson City; L. R. Seabaugh, Cape Girardeau.

Physical Medicine and Rehabilitation—D. Elliott O'Reilly, St. Louis, Chairman; Robert H. Fitzgerald, Independence. Associate Members: Otakar Machek, St. Louis; Edward B. Shires, Kansas City; John W. Deyton, St. Louis; Lester Wolcott, Columbia.

Civil Defense Disaster Medical Care—Carl D. Siegel, Sedalia, Chairman; John T. Crowe, Cape Girardeau; H. D. Steinbeck, Union; Carroll P. Hungate, Kansas City; William F. Bell, Lee's Summit; John H. Walterscheid, Hannibal; Curtis H. Lohr, Clayton; R. Ned White, Springfield; George E. Thoma, St. Louis; George L. Watkins, Farmington; O. P. Hampton Jr., University City; J. S. Sanders, Jefferson City.

Dr. Janney (center) moderated a panel presented by Drs. Jude and Zoll.

Aging—Stanley S. Peterson, Springfield, Chairman; Ralph Perry, Kansas City; C. Thorpe Ray, Columbia. Associate Members: Robert C. Kingsland, Clayton; Robert H. Tanner, Jefferson City; Don H. Giesler, Osceola; John A. Griffith, Kansas City; John W. Daake, St. Louis; J. H. Summers, Lebanon.

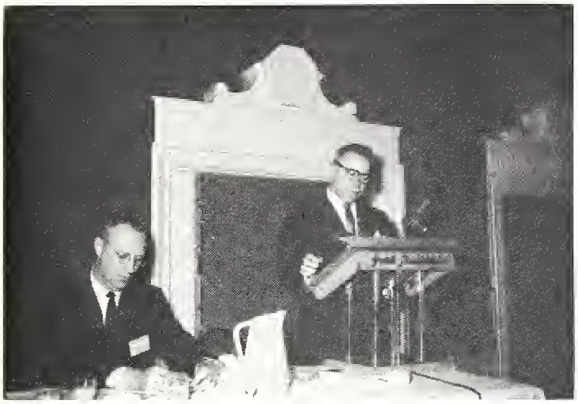
Speaker Mixson heard a reference committee report.

Radiology and Ionizing Radiation—Milton Shoss, Cape Girardeau, Chairman; Joseph S. Summers, Jefferson City. Associate Members: J. Stewart Whitmore, Kansas City; Gwilym S. Lodwick, Columbia.

Tuberculosis—Florence E. MacInnis, Kansas City, Chairman; Paul Murphy, St. Louis; H. M. Roberts, Kansas City; Joseph L. Lucido, St. Louis; Walter C. Gray, St. Louis; David N. Kerr, St. Louis; John W. Polk, Springfield; Sheldon Beecher, Poplar Bluff; Judson I. Chalkley, Columbia.

Study of Cardiac Disease—James G. Janney, St. Louis, Chairman; Earl L. Loyd, Jefferson City; William I. Park, Springfield; William J. Shaw Sr., Fayette; Jack M. Martt, Columbia; Robert Mosser, Independence; William J. Gillespie, St. Louis; Caryl A. Potter, St. Joseph; F. J. Biggs, Poplar Bluff; Joseph C. Edwards, St. Louis; J. Will Fleming, Moberly.

Rural Medical Service—B. J. Bass, Salem, Chairman; Robert E. Tribble, Chaffee; James H. Sweiger, Maysville; K. S. Latham, California; H. F. Hoelscher, Warrenton; James E. Campbell, Macon; Charles A. Worley, Sweet Springs; Fred L. Wommack, Crane.



Dr. Hollweg read committee appointments.

Public Service—O. B. Barger, Harrisonville, Chairman; Kenneth C. Hollweg, Kansas City; Armand Brodeur, St. Louis; Fred L. Wommack, Crane; Leonard T. Furlow, St. Louis.

Corporate Practice—Leonard T. Furlow, St. Louis, Chairman; Kenneth C. Hollweg, Kansas City; Avery P. Rowlette, Moberly; Robert H. Lund, Clayton; Donald H. Giesler, Osceola; John P. Ferguson, Springfield; Robert Kelley, St. Louis; Ray D. Williams, St. Louis; Hector W. Benoit, Kansas City.

Dr. Sherwin invited the Association to meet in St. Louis in 1964.

CHARLES SHERWIN, M.D., St. Louis: Mr. Speaker, the St. Louis Delegates have asked me to extend a cordial invitation to this Association to have its 1964 meeting in the City of St. Louis.

TREATMENT
OF
ALCOHOLISM

In-patient and out-patient treatment to help the excessive user of alcoholic beverages gain and maintain abstinence for the balance of his life. Treatment regimen drawn up individually for each patient. Your referrals welcomed.

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RALPH EMERSON DUNCAN, M.D.
Medical Director

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Free Portfolio
on
ALCOHOLISM

We invite consultation with you concerning your patients with problems of excessive drinking

President Hollweg and President-Elect Furlow pose together.

SPEAKER: Thank you, Dr. Sherwin. On behalf of the House of Delegates, I will accept that invitation.

Upon motion, duly seconded, the 105th Annual Session of the House of Delegates of the Missouri State Medical Association adjourned.

THE COUNCIL

Hotel Muehlebach, Kansas City

March 24, 1963

The Council met at 9:00 a.m., Hotel Muehlebach, Kansas City, March 24, with Leonard T. Furlow, M.D., St. Louis, Chairman, presiding. Those present were Drs. Furlow, Joseph L. Fisher, St. Joseph; A. P. Rowlette, Moberly; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; O. B. Barger, Harrisonville; Hector W. Benoit Jr., Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Donald M. Dowell, Chillicothe; Kenneth C. Hollweg, Kansas City; Charles R. Doyle, St. Louis; William C. Mixson, Kansas City; Stanley S. Peterson, Springfield; Vernon E. Wilson, Columbia; H. M. Hardwicke, Jefferson City; Durward G. Hall, Springfield; H. E. Petersen, St. Joseph; Angelo Lapi, Kansas City; Messrs. John W. Noble, Kennett; Frank Woolley, Chicago; Lemoine Skinner, Jordan Singleton, Vince Sanders, Tom Fox, Edgar Mothershead, T. R. O'Brien and Helen Penn, St. Louis; Gary Schnedler, Springfield.

INSURANCE CHANGES

The Insurance Co. of North America, carriers of the association group accidental death insurance program, through the R. B. Jones & Sons, Inc., proposed some changes effective April 1, 1963. The Council was polled by mail in a letter on Feb. 20, 1963, relative to the proposed changes voting unanimously in favor of them. Since this does not appear in the minutes of the Council, on motion of Dr. Hollweg, duly seconded, the changes were accepted.

CONFERENCE ON AGING

The 3rd National Conference on Aging to be held in San Francisco in May was announced. On motion of Dr. Stuart, duly seconded, it was voted that the Chairman of the Committee on Aging be asked to attend.

STUDENT AMA

A letter from the Student AMA requesting the MSMA to become a charter member at $100 was read. On motion of Dr. Hollweg, duly seconded, it was voted to do so.

AMA LEGISLATIVE CONFERENCE

A legislative conference to be held at the AMA on April 20 and 21 was announced with the statement that the AMA would pay expenses for three representatives. On motion of Dr. McCraw, duly seconded, it was voted that the President, the President-Elect and the Chairman of the Council be asked to attend.

CIVIL DEFENSE TRAINING COURSE

A Civil Defense state line training course to be held March 23-25 was discussed and the costs were estimated. Dr. Hardwicke said that the Division of Health would match any financial assistance MSMA gave. A motion not to participate was without a second. On motion of Dr. Stricker, duly seconded, it was voted that $100 be given toward the expenses.

MEDICINE AND RELIGION

A letter from the AMA was read telling of the Department of Medicine and Religion and saying that 14 states now have work underway and 11 others are planning to do so. An offer was made that the work be explained to the Council and on motion of Dr. Whitener, duly seconded, it was voted to invite someone to explain the work to the Council.

AHA WORKSHOP

An area wide workship by the American Hospital Association to be held in Kansas City April 29 to May 2 was announced. Dr. Hollweg was asked to appoint someone to attend.

TREASURER'S REPORT

Dr. Doyle presented the Treasurer's report, which on motion, duly seconded was accepted for filing.

CASE FINDING

Dr. Hardwicke asked approval of the Council for a project in "Cord Injury and Cerebral Palsy Case Finding Methodology for Statewide Planning in Missouri." On motion of Dr. Dowell, duly seconded, this was approved.

RESOLUTION

A resolution recommending an amendment to the By-Laws to eliminate the Committee on Hospital and Professional Relations was presented and on motion of Dr. Hollweg, duly seconded, it was approved for presentation to the House of Delegates.

LEGISLATION

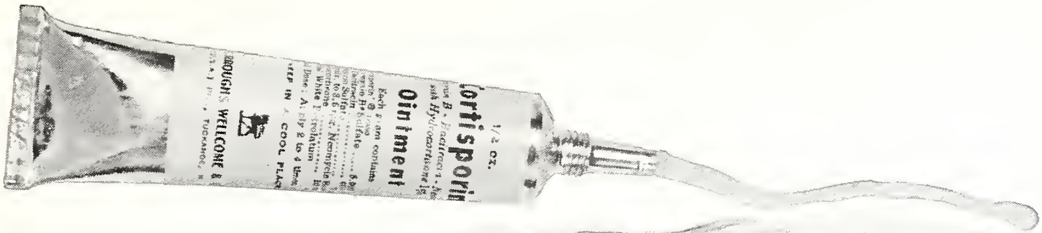
The chiropractic bill was discussed and it was agreed that unless amendments were accepted by the legislature, the bill should be opposed.

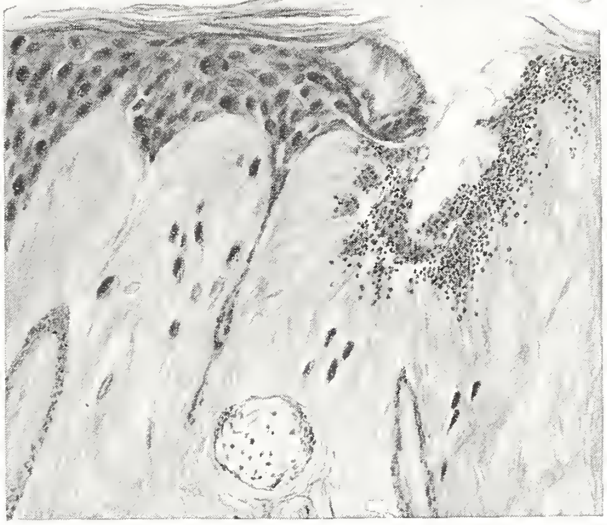
H.B. 499, relating to licensing of physiotherapists was discussed and on motion of Dr. Hollweg, duly seconded, it was voted to oppose the bill.

On motion of Dr. Whitener, duly seconded, it was voted to rescind the Council's previous position to delete the word "physician" from S.B. 108, the professional corporation act.

Meeting of March 25, 1963

The Council met at noon on March 25 to consider the





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anti-inflammatory / bactericidal / antipruritic

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Each gram contains:
'Aerosporin'® brand Polymyxin B* Sulfate 5,000 Units; Zinc Bacitracin 400 Units; Neomycin Sulfate 5 mg.; Hydrocortisone 10 mg. (1%).

- relieves pain and itching
- reduces inflammation and edema
- provides bactericidal action against most gram-positive and gram-negative organisms, including *Pseudomonas aeruginosa*
- rarely sensitizes

General Indications: Wherever inflammation or infection occurs and is accessible for topical therapy, as in burns, wounds, skin grafts; and plastic proctologic, gynecologic, or general surgical procedures.

Dermatologic Indications: Atopic, contact, stasis, infectious eczematoid, and lichenoid dermatitis; neurodermatitis, eczema, pyoderma; anogenital pruritus; primary dermatoses with or without secondary infection; external otitis.

Caution: As with other antibiotic products, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

Contraindications: Local application is contraindicated in tuberculous conditions of the skin, herpes simplex, vaccinia and varicella.

Available: In tubes of ½ oz. with applicator tip and ⅛ oz. with ophthalmic tip. Although the ⅛ oz. tube is intended for ophthalmic use, it may be used topically.

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resolution referred to it by the Speaker of the House of Delegates. After discussion and on motion of Dr. Stuart, duly seconded, the following report to the House was agreed upon:

The Council met at noon to consider the following resolution presented to the House of Delegates by the Cole County delegation at yesterday's session. The resolution follows:

> WHEREAS, The contacts between government and organized medicine are becoming increasingly frequent and intimate, and
>
> WHEREAS, A progressively important function of the executive staff (of MSMA) is representation of organized medicine to and before various governmental bodies and agencies, and
>
> WHEREAS, Such representation would be enhanced by the residence of a member of the MSMA executive staff at the seat of government in Jefferson City, now therefore be it
>
> *Resolved*, That the Council shall make necessary budgetry preparations as required for the 1964 opening of a permanent branch office in Jefferson City, and further, that the Council with the advice of the Executive Secretary, designate and/or employ a full-time member of the executive staff who shall be resident in Jefferson City as an assistant to the Executive Secretary.

After considerable discussion and upon advice of legal counsel, it was decided that this resolution had been properly referred to the Council by the Speaker of this House because of the following provision in the Constitution of this organization:

Article VIII. Funds, Expenses and Budget. All resolutions providing for appropriations shall be referred to the Council and all appropriations approved by the Council shall be included in the annual budget.

After due deliberation, it was the opinion of the Council that its action should be to refer this matter back to the Speaker of the House for assignment to a reference committee without recommendation of the Council so that proper public hearings may be held.

LEONARD T. FURLOW, M.D., *Chairman*

Meeting of March 27, 1963

The Council met at noon, March 27, Hotel Muehlebach, Kansas City, with Kenneth C. Hollweg, M.D., Kansas City, President, presiding. Those present were Drs. Hollweg, Joseph L. Fisher, St. Joseph; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; O. B. Barger, Harrisonville; Hector W. Benoit Jr., Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Leonard T. Furlow, St. Louis; Vernon E. Wilson, Columbia; Messrs. Lemoine Skinner, Vince Sanders, Ray McIntyre, Jordan Singleton, T. R. O'Brien, and Helen Penn, St. Louis.

Dr. Barger nominated Dr. Stuart as Chairman of the Council, which was seconded. Dr. Whitener moved that the nominations be closed and Dr. Stuart be elected by acclamation, which was done.

Dr. Stuart presided at the remainder of the meeting.

Dr. Furlow nominated Dr. John I. Matthews, Jefferson City, for Secretary. This was seconded by Dr. Fisher and carried.

Dr. Furlow nominated Dr. Charles R. Doyle, St. Louis, as Treasurer. This was seconded by Dr. Whitener and carried.

Dr. Fisher nominated Dr. Barger for Vice Chairman of the Council. This was seconded by Dr. Benoit and carried.

Dr. Furlow moved that Dr. James R. Macnish, St. Louis, be elected to finish out Dr. Furlow's unexpired term, and on second by Dr. Hollweg, this was voted.

Dr. Wilson and Mr. O'Brien discussed the University of Missouri School of Medicine and an "Analysis of Operations and Request for Biennium" was presented to members.

On motion of Dr. Furlow, seconded by Dr. Fisher, it was voted that a resolution endorsing the previous operation of the medical school be prepared and copies be presented to the two committees and to the Governor.

Material on the conference on "Medical Quackery" sponsored by the Missouri Health Council to be held May 1 in Jefferson City was presented.

It was decided that the next meeting would be held in St. Louis on May 25 and 26.

BYRON M. STUART, M.D., *Chairman*

REGISTRATION AT THE ONE HUNDRED FIFTH ANNUAL SESSION

First Councilor District—56

Allen, E. Warren, Carrollton
Ames, Mary B., St. Joseph
Ames, William H., St. Joseph
Baker, Warren C., Savannah
Balhuizen, John, Kansas City
Bauman, Henry C., Maryville
Benson, Scott C., St. Joseph
Bohnsack, R. W., Brookfield
Bruce, Paul C., Excelsior Springs
Clark, C. L., Trenton
Conrad, Joseph A., Chillicothe
Cullers, Charles H., Trenton
Dixon, John R., Brookfield
Dowell, Donald M., Chillicothe
Dwyer, R. D., N. Kansas City
Edwards, T. F., Kansas City
Fischer, Edward H., Kansas City
Fisher, Joseph L., St. Joseph
Forgrave, John R., St. Joseph
Forman, George W., St. Joseph
Gary, George, Marceline
Gearhart, Merriam, Bethany
Goldberg, I. E., Braymer
Grimes, Manning E., St. Joseph
Hobbs, E. B., Smithville
Hodge, Robert N., Kansas City
Horner, Glennon A., Marceline
Howell, B. D., Brookfield
Imes, E. D., Maryville
Jackson, W. R., Maryville
McArtor, T. R., Browning
McDaniel, John R., St. Joseph
McDonald, Wilbur P., St. Joseph
Mairs, E. J., Trenton
Mandler, George, Chillicothe
Martin, John, St. Joseph
Matteson, Frank B., Grant City
Mundy, Homer F., St. Joseph
Nelson, Fred L., St. Joseph
Petersen, H. E., St. Joseph
Pfeffer, Robert E., St. Joseph
Platz, John H., Carrollton
Potter, Thompson E., St. Joseph
Redmond, William, St. Joseph
Riddell, Richard V., St. Joseph
Robinson, John A., Edgerton
Rogers, John T., St. Joseph
Rosenthal, Irwin, St. Joseph
Rost, William B., St. Joseph
Schertz, T. B., N. Kansas City
Sklenar, Donald E., St. Joseph
Spalding, W. B., Plattsburg
Vandiver, V. D., Chillicothe
Wadlow, E. E., St. Joseph
Willman, Charles R., St. Joseph
Willumsen, Henry C., St. Joseph

Second Councilor District—15

Bach, Lysle M., Hannibal
Barnett, F. A., Paris
Campbell, James E., Macon
Davis, Landis Y., Canton
Dreyer, Philip V., Huntsville
Eggleston, Don E., Macon
English, Milton T., Kirksville
Fleming, J. Will Jr., Moberly
Fleming, Thomas S., Moberly
Grover, C. Rice, Brunswick
Hamlin, Wyeth, Hannibal
Isom, Waldo B., Knox City
Murphy, B. L., Hannibal
Rowlette, Avery P., Moberly
Szymanswi, Stanley, Moberly

Third Councilor District—65

Bartlett, Robert W., St. Louis
Bassett, Robert B., St. Louis
Berry, John W., Clayton
Boedeker, Roy V., St. Louis
Brennan, Robert V., Des Peres
Bricker, Eugene M., St. Louis
Brodeur, Armand E., St. Louis
Broun, G. O., St. Louis
Brown, James B., St. Louis
Cannon, Edward M., St. Louis
Danis, Peter G., St. Louis
Doyle, C. R., St. Louis
Dreyer, Carl J., Webster Groves
Eberle, John, St. Louis
Ernst, Edwin C., St. Louis
Finnegan, Joseph V., St. Louis
Funsch, Robert E., St. Louis
Furlow, Leonard T., St. Louis
Gillespie, William, St. Louis
Gunn, Walter T., St. Louis
Haddock, James N., Webster Groves
Hardy, Joseph A., St. Louis
Harell, Alex, St. Louis
Hartnett, Leo J., St. Louis
Hawkins, George L. Jr., Webster Groves
Henschel, Eugene V., St. Louis
Holbrook, Charles K., St. Louis
Huck, Richard, St. Louis
Janney, James G. Jr., St. Louis
Kelly, R. Emmet, St. Louis
Kerr, David N., University City
Kinsella, Edward D., St. Louis
Knight, Franklin P., St. Louis
Knight, William A., St. Louis
Kohler, Louis H., St. Louis
Lewis, J. Eugene, St. Louis

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Each tablet contains methscopolamine nitrate, 2 mg.; and pentobarbital (Warning: May be habit-forming), 8 mg.; plus KANULASE® (cellulase standardized to 9 mg.; combined with pepsin, N.F., 150 mg.; glutamic acid hydrochloride, 200 mg.; pancreatin, N.F., 500 mg.; ox bile extract, 100 mg.).

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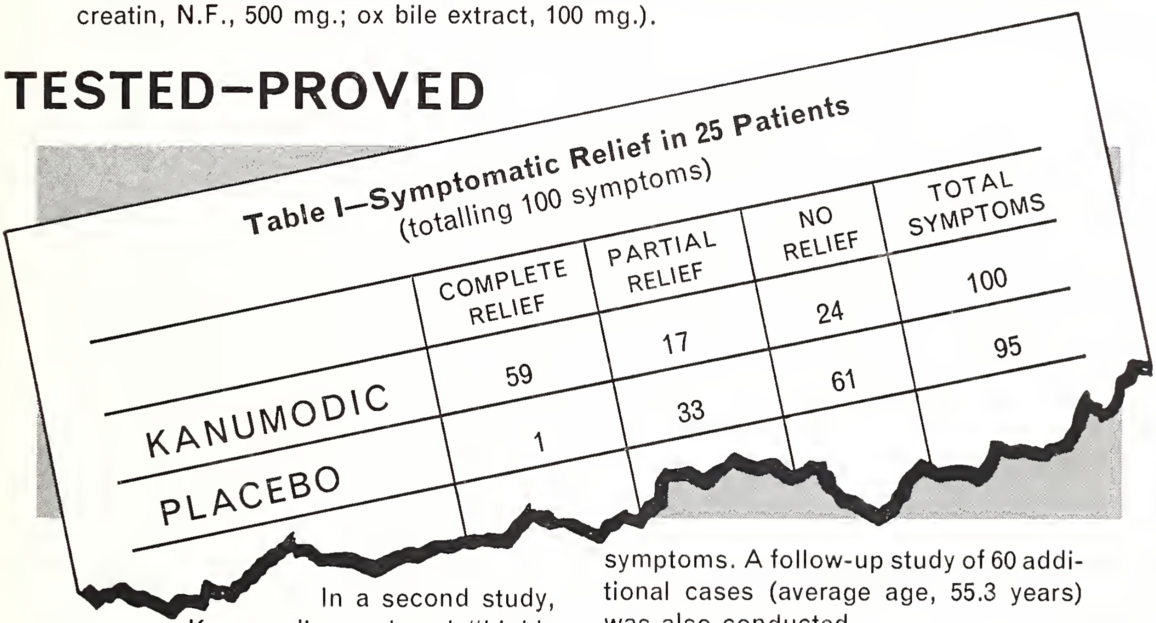

Table I—Symptomatic Relief in 25 Patients
(totalling 100 symptoms)

	COMPLETE RELIEF	PARTIAL RELIEF	NO RELIEF	TOTAL SYMPTOMS
KANUMODIC	59	17	24	100
PLACEBO	1	33	61	95

In a second study, Kanumodic produced "highly gratifying symptomatic relief" in 46 of the 60 patients participating.

Tested in patients over 50*. . . The effectiveness of Kanumodic was matched against placebo response in a study involving twenty-five "over 50 patients" suffering from functional bowel distress. All patients complained of one or more symptoms. A follow-up study of 60 additional cases (average age, 55.3 years) was also conducted.

Proved in patients over 50* . . . The response noted in the pilot study is charted above.

*McHardy, G., and Balart, L.: Curr. Ther. Res. *4*:153, 1962.

Dosage: 1 or 2 tablets, swallowed whole with each meal.

Cautions: Federal law prohibits dispensing without prescription. Side effects such as dryness of mouth, blurring of vision, and urinary retention may occur occasionally with large doses. This product is contraindicated in the presence of glaucoma or prostatic hypertrophy. Glutamic acid hydrochloride is usually not given to patients with peptic ulcer.

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Lonergan, Warren M., St. Louis
Lottes, J. Otto, St. Louis
Lucido, Joseph L., St. Louis
McNamara, John J., St. Louis
Macnish, James, Webster Groves
Magness, Guy N., University City
Max, Paul F., St. Louis
Mehan, Donald J., St. Louis
Melick, William F., St. Louis
Merenda, Sam J., St. Louis
Morris, Mary E., St. Louis
Mueller, Robert, St. Louis
Muether, R. O., St. Louis
Neilson, Arthur W., St. Louis
Olmsted, William H., St. Louis
Oppenheimer, Henry E., Clayton
Reas, Herman W., Webster Groves
Roulhac, George E., St. Louis
Roy, Joseph A., St. Louis
Sexton, Daniel L., St. Louis
Sherwin, Charles S., St. Louis
Simon, Jerome I., St. Louis
Snyder, Edward N., St. Louis
Sterkel, R. L., St. Louis
Stoneman, William III, St. Louis
Tichenor, Robert W., St. Louis
Thompson, J. William, St. Louis
Tucker, Eugene F., Crestwood
Zahorsky, T. S., St. Louis

Fourth Councilor District—33

Backlar, Joseph, Los Angeles, Calif.
Bailey, William H., St. Louis
Bonney, Samuel C., Washington
Creech, J. C., Troy
Damron, E. O., Elsberry
Davis, E. W., St. Louis
Fallet, Charles E., De Soto
Hampton, Oscar P. Jr., St. Louis
Hershey, Falls B., University City
Howe, Louis F., Brentwood
Kaskie, Clifford R., Clayton
Keller, R. M., Wentzville
Kendis, Joseph B., Ladue
Koch, Robert E., St. Louis
Kopp, James H., St. Louis
Mayer, Robert A., St. Louis
Mays, Frank A., Washington
Mezera, R. A., St. Louis
Miles, Paul W., St. Louis
Muench, L. O., Washington
Roberts, H. K., Clayton
Schattyn, Martyn, St. Louis
Schmidt, Charles A., Gerald
Schwartz, Melvin M., St. Louis
Shea, James G., Gerald
Sisk, James C., Clayton
Sutter, Richard A., St. Louis
Trueblood, A. C. Jr., Kirkwood
Vitale, N. S., St. Louis
Whitener, Paul R., St. Ann
Workman, George, Hermann
Wulff, George, St. Louis
Yeager, Gerald A., St. Charles

Fifth Councilor District—58

Allen, William C., Columbia
Asel, Norman D., Columbia
Baker, James M., Columbia
Belden, E. A., Jefferson City
Bloom, William, Fayette
Buesseler, John A., Columbia
Bumgarner, Roger, Columbia
Burns, Thomas W., Columbia
Chalkley, Judson I., Columbia
Cooper, Maurice E., Columbia
Cope, James C., Columbia
Durst, Henry, Fulton
Dwyer, Thomas L., Mexico
Epple, Kathryn C., Mexico
Epple, Lawrence K., Mexico
Exon, C. Stuart, Jefferson City
Garner, Lynn, Jefferson City
Hall, David G., Columbia
Hardwicke, H. M., Jefferson City
Jackson, Vernon B., Fulton
Kallenbach, Glen P., Mexico
Kepler, E. C., Fulton
Ladenson, Roland P., Columbia
Lodwick, Gwilym S., Columbia
Logue, John T., Columbia
Loyd, Earl L., Jefferson City
Lyle, Ray, Versailles
Marienfeld, Carl J., Columbia
Martt, Jack M., Columbia
Matthews, John I., Jefferson City
Mayer, William D., Columbia
Meinershagen, C. W., Jefferson City
Neal, M. Pinson, Columbia
Pingelton, William B., Columbia
Rall, Kenneth L., Columbia
Ray, C. Thorpe, Columbia
Ritterbusch, James K., Fulton
Rodes, Ned, Mexico
Russell, J. P., Jefferson City
Sanders, Jack S., Jefferson City
See, William B., Columbia
Shaw, Gordon, Mexico
Shaw, William J., Fayette
Shull, G. Donald, Jefferson City
Stephan, August P., Jefferson City
Stephenson, Hugh E. Jr., Columbia
Stuart, Byron M., Boonville
Tanner, Robert H., Jefferson City
Tellez, Edward R., Fulton
Walters, John H., Columbia
Walters, Laura, Columbia
Ward, Robert L., Centralia
Washburn, J. L., Versailles
Watts, Byron E., Jefferson City
Weiss, James M. A., Columbia
Wilson, Vernon E., Columbia
Winn, G. W., Boonville
Wolcott, Lester, Columbia

Sixth Councilor District—40

Aiken, George A., Marshall
Allen, William H., Nevada
Arnold, Richard C., Sedalia
Barger, O. B., Harrisonville
Blalock, Robert W., Marshall
Bradshaw, William D., Clinton
Braverman, Elliot M., Sedalia
Boydston, Catherine, Odessa
Boydston, W. Wayne, Odessa
Folkner, A. L., Warrensburg
Geisler, Don, Osceola
Gonzalez, M. Garza, Warrensburg
Harkness, Harry, Warrensburg
Hollingsworth, R. S., Clinton
Jones, Edna M., Clinton
Jones, Edward S., Harrisonville
Kelling, Jordan, Waverly
King, Richard H., Clinton
Lederer, Charles M., Warrensburg
Lusk, Charles A. Jr., Butler
Luter, Carter W., Butler
McCorkle, E. Lee, Marshall
Maddox, Albert R., Sedalia
Magee, Robert L., Eldorado Springs
Martin, W. C., Odessa
Pascoe, James J., Nevada
Pickens, E. Allen, Nevada
Proctor, Donald C., Sedalia
Richter, William B., Stockton
Riley, Charles T. Jr., Richmond
Smith, James O., Clinton
Smith, William J., Windsor
Stauffacher, C. G., Sedalia
Tracy, H. A., Belton
Tracy, T. A., Belton
Walker, George S., Clinton
Wheeler, Robert, Harrisonville
Worley, Charles A., Sweet Springs
Wray, Rolla B., Nevada

Seventh Councilor District—161

Aisenstadt, E. Albert, Kansas City
Altringer, A. N., Kansas
Anderson, Raymond B., Shawnee Mission, Kansas
Andrews, Berneil W., Kansas City
Aschman, Theodore H., Kansas City
Atcheson, Bellfield, Kansas City
Atwell, Floyd C., Kansas City
Bachmann, Paul L., Independence
Barnard, John L., Kansas City
Barnett, Gordon P., Shawnee Mission, Kansas
Bates, G. Comer, Kansas City
Becker, R. R., Kansas City
Bell, William F., Lee's Summit
Benoit, Hector W. Jr., Kansas City
Bergmann, Victor H., Kansas City
Bernreiter, Michael, Kansas City
Berry, Maxwell G., Kansas City
Boutros, Amin, Kansas City
Bowser, John F., Kansas City
Brams, Jack B., Kansas City
Brown, Robert S., Kansas City
Brumm, Lawrence W., Kansas City
Bryan, William H., Kansas City
Buckingham, W. W., Kansas City
Buhler, Victor B., Kansas City
Burk, Emmett K., Kansas City
Butcher, R. W., Kansas City
Caffrey, Raymond J., Kansas City
Caldwell, John K., Kansas City
Carlson, Hjalmar, Kansas City
Carrier, Edson C., Kansas City
Chambers, J. Q., Kansas City
Chandler, R. A., Kansas City
Coffey, Ralph R., Kansas City
Cohen, Harry K., Kansas City
Cooper, Charles S., Kansas City
Counsell, Chester M., Kansas City
Culbertson, William F., Kansas City
Davis, Herbert V., Kansas City
Downey, James W., Shawnee Mission, Kansas
Dwyer, Hugh L., Kansas City
Eldridge, Charles J., Kansas City
Eubank, David F., Raytown
Eubank, Dillard M., Raytown
Eubank, William R., Kansas City
Feist, George V., Kansas City
Fowler, James W., Kansas City
Franklin, C. U. Jr., Kansas City
Frick, J. Paul, Kansas City
Fritzlen, Thomas J., Kansas City
Gainey, Harold L., Kansas City
Ganley, William C., Kansas City
Gibson, David M., Kansas City
Gilkey, Harry M., Kansas City
Gist, William W., Kansas City
Gottsch, Joseph C., Kansas City
Green, John R., Independence
Greene, W. Wallace, Kansas City
Griffith, John A., Kansas City
Growdon, John A., Kansas City
Haynes, S. E., Kansas City
Hibbard, Blaine Z., Kansas City
Hickerson, William H., Independence
Hodgson, Frank H., Kansas City
Hoeper, Sam D., Kansas City
Hollweg, Kenneth C., Kansas City
Hungate, Carroll P., Kansas City
Hunt, Claude J., Kansas City
Hunter, Martin P., Kansas City
Hunzicker, Warren J., Kansas City
Jansen, Robert, Kansas City
Johns, Leo E. Jr., Kansas City
Johnson, C. Laurence, Kansas City
Johnson, T. M., Kansas City
Jonas, Harry S., Independence
Jones, George H., Kansas City
Keeler, James E., Kansas City
Kettner, Edward G., Kansas City
Kiene, Richard H., Kansas City
Kitchen, William M., Kansas City
Knight, John S., Kansas City
Knight, Lyle B., Lee's Summit
Knoch, H. Kermit, Kansas City
Korth, William, Kansas City
Lamar, Robert F., Kansas City
Lapi, Angelo, Kansas City
Layton, Ira C., Kansas City
Leitch, C. E., Blue Springs
Leitz, Frank B., Kansas City
Levey, Harry B., Kansas City
Linville, Howard E., Kansas City
Long, R. Stacy, Kansas City
McCanse, Andrew, Kansas City
McCoy, Frederick J., Kansas City
McCullough, Campbell, Kansas City
McVay, James R., Kansas City
McVay, James R. Jr., Kansas City
MacInnis, Florence E., Kansas City
Marks, Mark, Kansas City
Meyer, Paul W., Kansas City
Miller, Gerald L., Kansas City
Miller, Clint L., Lee's Summit
Mixson, William C., Kansas City
Mosser, Robert S., Independence
Mueller, Martin J., Kansas City
Multhauf, Robert M., Kansas City
Myers, Robert M., Kansas City
Newman, Robert L., Shawnee Mission, Kansas
Nigro, D. M., Kansas City
Nigro, E. R., Kansas City
Nigro, J. A., Kansas City
O'Malley, James F., Kansas City
Ost, Mark, Kansas City
Owens, Richard L., Kansas City
Owens, Robert H., Kansas City
Parker, Hubert M., Kansas City
Pearson, Paul E., Mission, Kansas
Perry, Ralph, Kansas City
Peterson, Carl M., Kansas City
Peterson, W. R., Kansas City
Pickens, Edgar E., Kansas City
Potter, L. G., Kansas City
Potts, Donald A., Kansas City
Rader, Ada B., Kansas City
Raich, Robert A., Kansas City

(Continued on page 670)

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Orange Flavored
Bayer Aspirin for Children
is sweet
all the way through,
so children
take it readily.
The GRIP-TIGHT CAP
on the bottle
helps keep them
from taking it
on their own.

Bottles of 50 tablets
(1¼ grains each)

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NEW ORANGE FLAVOR!

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BAYER ASPIRIN for CHILDREN
ORANGE FLAVORED
BAYER
ASPIRIN FOR CHILDREN
GRIP-TIGHT CAP
BAYER
Genuine
50 TABLETS
1¼ GRS. EA.
Dr. J
22
5
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parenteral hemostat

Each cc contains: 5 mg. oxalic acid, 2.5 mg. malonic acid, phenol 0.25%; sodium carbonate as buffer.

Complete data with each 10cc vial. Therapy chart on request.

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Sanders, William F., Kansas City
Schillie, Gene, Kansas City
Seely, Clark W., Kansas City
Shapiro, L. M., Kansas City
Shelden, Russell D., Kansas City
Shypper, M. J., Kansas City
Skillman, R. K., Kansas City
Slentz, Ed, Kansas City
Smith, Othello D., Kansas City
Smith, Robert A., Kansas City
Snider, Wilbur R., Kansas City
Sportsman, Weldon, Kansas City
Staggs, William A., Kansas City
Stelmach, Walter J., Kansas City
Stockton, Raymond W., Kansas City
Stockwell, A. Lloyd, Kansas City
Wakefield, Frank H., Kansas City
Walker, John W., Kansas City
Webster, Joseph G., Kansas City
Welker, Joseph E., Kansas City
Wells, John H., Kansas City
Wheeler, Charles B. Jr., Kansas City
Whitman, Doyle C., Kansas City
Whitmore, J. S., Kansas City
Wilhelm, Warren F., Kansas City
Williams, Frank R., Kansas
Williams, Vincent T., Kansas City
Willits, Lyle G., Kansas City
Winkelman, Esther, Kansas City
Wortmann, Robert F., Kansas City

Eighth Councilor District—61

Auner, Cecil R., Springfield
Bareis, Robert J., Marshfield
Blankenship, George W., Neosho
Bowman, Melvin C., Neosho
Burch, John E., Joplin
Callaway, Guy D. Jr., Springfield
Clarke, Michael J., Springfield
Cohle, Richard R., Carthage
Coller, Frederick B., Springfield
Crawford, Archie L., Joplin
Donley, Robert R., Monett
Farthing, Gene W., Springfield
Ferguson, Lewis H., Joplin
Ferguson, Ralph L., Joplin
Ferrell, Thomas E. Jr., Springfield
Glass, William J. Jr., Monett
Glenn, Elmer E., Forsyth
Glover, Kenneth, Mount Vernon
Graves, Arthur J., Mount Vernon
Griffin, Evelyn, Buffalo
Griffin, Olin A., Buffalo
Hall, David W., Springfield
Hall, Durward G., Springfield
Hobbs, George H., Mount Vernon
Jeans, Virgil E., Joplin
Knabb, Arthur D., Springfield
Knabb, Kenneth E., Springfield
Kolze, Vernon W., Springfield
Koon, Ben, Bolivar
Lemmon, G. Bruce Jr., Springfield
Lurie, Harold H., Springfield
McAlhany, Howard, Springfield
McCraw, Doyle C., Bolivar
McNeel, Lee A. Jr., Breenfield
Macdonnell, Thomas M., Marshfield
Maher, Robert, Springfield
Napper, Marvin L., Springfield
Papp, Sandor D., Joplin
Patterson, Donald R., Joplin
Peterson, Stanley S., Springfield
Powell, Edwin M., Springfield
Powell, Robert G., Joplin
Roper, Stanley D., Ozark
Schulte, Gregory A., Joplin
Schweitzer, F. C., Springfield
Scorse, Sidney, Joplin
Silsby, Harry D., Springfield
Simpson, Albert P., Springfield
Smith, C. Souter, Springfield
Snead, William H., Springfield
Tillman, Walter W., Springfield
Turner, Glenn O., Springfield
Whitehead, Frank F., Neosho
Whitten, M. Foster, Carthage
Williams, John Wood Jr., Springfield
Wilson, Daniel R., Mount Vernon
Wommack, Fred, Crane
Wood, George H., Carthage
Wooldridge, Bart F., Joplin
Yancey, Daniel L., Springfield

Ninth Councilor District—9

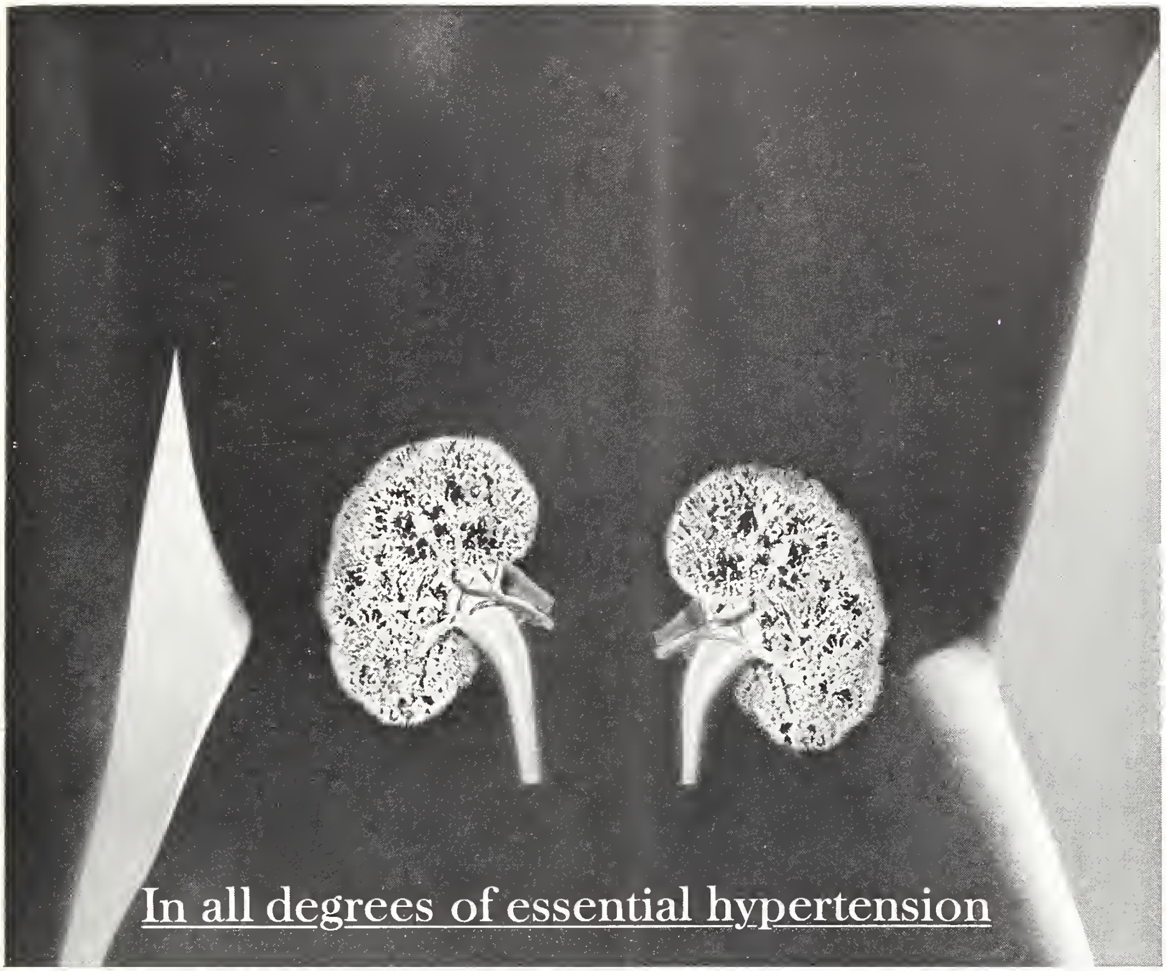
Bass, B. J., Salem
Cooper, C. W., Thayer
Fowler, Marvin L., West Plains
Hope, James L., Lebanon
Lytle, William R., Rolla
Stricker, E. A., St. James
Summers, J. H., Lebanon
Underwood, M. K., Rolla
Wall, Joe A., Houston

Tenth Councilor District—17

Biggs, Fred J., Poplar Bluff
Bull, Ben M., Ironton
Carleton, C. E., Farmington
Cash, Charles R., Kennett
Chastain, Charles W., Farmington
Cook, O. W., Caruthersville
English, Wallace D., Cardwill
Fischer, Theodore, Altenburg
Heeb, Max A., Sikeston
Kasten, Melvin C., Cape Girardeau
Otto, Thomas G., Cape Girardeau
Rapp, Harold B., Cape Girardeau
Seabaugh, William O. L., Cape Girardeau
Shoss, Milton, Cape Girardeau
Spence, E. L., Kennett
Tribble, Robert E., Chaffee
Wilson, Charles F., Cape Girardeau
Zimmerman, Joe A., Kennett

Guest Physicians—62

Altug, Mete, Kansas City
Anigian, M. J., Whiteman Air Force Base
Baker, A. Sherwood, Mt. Morris, Ill.


In all degrees of essential hypertension

Help protect the kidneys and other threatened organs

When treatment of hypertension is effective the danger of damage to the renal system is reduced.[1-2] "Hypertensive patients suffer from vascular deterioration roughly proportional to the severity of the hypertension... Reduction of blood pressure to normotensive levels reduces or arrests the progress of vascular damage with a resultant decrease in morbidity and mortality."[1] *Because Rautrax-N lowers blood pressure so effectively, it will help provide this important protection not only for the kidneys but also for the heart and brain of your hypertensive patients.* Rautrax-N is effective in mild,[3] moderate,[3,4] or severe hypertension.[4,5]

Dosage: Initially, 1 to 4 tablets daily preferably at mealtime. For maintenance, 1 or 2 tablets daily.

Side effects and precautions: Rauwolfia preparations may cause reversible extrapyramidal symptoms and emotional depression. Caution indicated in use with depression, suicidal tendencies, peptic ulcer. Minor side effects: diarrhea, weight gain, nausea, drowsiness. Bendroflumethiazide may cause reversible hyperuricemia and/or gout, unmask latent diabetes, increase glycosuria in diabetics. Caution indicated in use for patients on digitalis, with severely damaged kidneys, renal insufficiency, increasing azotemia, cirrhosis. Contraindicated in complete renal shutdown. Minor side effects: leg or abdominal cramps, pruritis, paresthesias, mild rashes.

Supply: Rautrax-N—capsule-shaped tablets providing 50 mg. Raudixin® [Rauwolfia serpentina whole root], 4 mg. Naturetin® [bendroflumethiazide], and 400 mg. potassium chloride. *Rautrax-N Modified*—50 mg. Raudixin [Rauwolfia serpentina whole root], 2 mg. Naturetin [bendroflumethiazide], and 400 mg. potassium chloride, in capsule-shaped tablets. For full information, see your Squibb Product Reference or Product Brief.

References: (1) Moyer, J. H., and Heider, C.: Am. J. Cardiol. *9*:920 (June) 1962. (2) Brest, A. N., and Moyer, J. H.: Pennsylvania M. J. *63*:545 (Apr.) 1960. (3) Berry, R. L., and Bray, H. P.: J. Am. Geriatrics Soc. *10*:516 (June) 1962. (4) Hutchison, J. C.: Current Therap. Res. *4*:610 (Dec.) 1962. (5) Feldman, L. H.: North Carolina M. J.: *23*:248 (June) 1962.

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Buesing, O. R., Ft. Leavenworth, Kan.
Crowder, Richard B., Rapid City, S. D.
Dale, Alguist V., Joplin
Devins, George S., Overland Park, Kan.
Dykes, Norman, Kansas City
Eckert, Charles, Albany, N. Y.
Engelmann, Calvin E., Kansas City
Engelstad, Orlyn, Kansas City
Evans, Lawrence L., Kansas City
Flint, Edgar M. Ardsley, N. Y.
Freeman, Lawrence M., Kansas City
Glenn, Frank, New York
Gorby, Earl W., Ft. Leavenworth, Kan.
Harrison, Gunyon M., Houston, Texas
Haun, C. L., Columbia
Hermans, Paul E., Rochester, Minn.
Hojnoski, Waclaw, Ft. Leavenworth, Kan.
Hooper, Robert N., Kansas City
Houck, W. S., Ft. Leavenworth, Kan.
Jacobson, L. O., Chicago, Ill.
Jude, James R., Baltimore, Md.
Kilfoyle, Richard M., S. Weymouth, Mass.
Layle, John K., Kansas City
Leivy, David M., Ft. Leavenworth, Kan.
Lobeck, Charles C., Madison, Wis.
Lull, George F., Chicago, Ill.
Margo, Elias, Oklahoma City, Okla.
Mason, Wayne, Columbia
Meyer, Norman C., Chicago, Ill.
Miller, Joseph R., Benton, Ky.
Moreano, Armando, Kansas City
Morley, Fred H., Kansas City
Moss, William T., Chicago, Ill.
Mount, Allen, Kansas City
Nemmers, David J., Kansas City
O'Kell, Richard T., Kansas City
Parikh, Babulal, Kansas City
Patton, William G., Ironton
Peschin, Arthur, Ft. Leavenworth, Kan.
Petersen, Gerald D., Kansas City
Pickren, John W., Buffalo, N. Y.
Pollak, Victor E., Chicago, Ill.
Pugh, Rosemary, Overland Park, Kan.
Rabasa, Vicente, Kansas City
Reid, Duncan E., Boston, Mass.
Robbins, Frederick C., Cleveland Heights, Ohio
Stephen, C. Ronald, Durham, N. C.
Strobach, Kurt, Kansas City
Timms, Fred, Boulder, Colo.
Wachowski, T. J., Wheaton, Ill.
White, Claude R., Missoula, Mont.
Wiens, John W., Kansas City
Wilkins, Harold D., Columbia
Wroblewski, Felix, New York, N. Y.
Ziegler, John G., Ft. Custis, Virginia
Zoll, Paul M., Boston, Mass.

There were 515 members registered, 62 guest physicians, three students, 20 residents and interns, 171 exhibitors, 174 medical technologists, 237 Woman's Auxiliary, making a total registration of 1,188.

ANNUAL MEETING OF THE MISSOURI STATE MEDICAL FOUNDATION, MUEHLEBACH HOTEL, KANSAS CITY, MARCH 25, 1963

The meeting was called to order by Leonard T. Furlow, M.D., President, at 5:30 p.m. A quorum was declared present. Dr. Furlow stated that the minutes of the 1962 annual meeting in St. Louis, following immediately the Monday afternoon, March 19, session of the MSMA House of Delegates, were published in the July, 1962 issue of Missouri Medicine. He called for any additions or deletions to the minutes. There being none, the minutes of the 1962 meeting were declared approved as published. He also pointed out that minutes of the Board of Trustees meeting of the Foundation following the 1962 Annual Meeting were also published in the July, 1962 issue of Missouri Medicine.

The President reported on a regular meeting of the Board of Trustees held in St. Louis on June 10, 1962, the primary purpose being to consider ways and means of securing additional funds for the Foundation. At the June 10 meeting, the board approved a group insurance term policy to cover all of the loans made to medical students. He reported that to date the Council of the MSMA has absorbed the administrative costs of the Foundation.

Dr. Furlow reported that two letters had been mailed to the membership of the State Medical Association soliciting donations to the Foundation during 1962, one in June, over President Dowell's signature, and a second letter around December 1, signed by the President of the Foundation. He also brought to the attention of those present that the House of Delegates of the MSMA, in 1962, passed an assessment of $7.50 per year for the years 1963, 1964 and 1965 per member for the Foundation loan fund.

President Furlow directed attention to the status of the Foundation as of March 25, 1963, a mimeographed Copy of which had previously been passed out to those in attendance and is as follows:

Status as of March 25, 1963

INCOME*

Contributions	
Received in grants from Missouri State Medical Association	$75,000.00
Special grant—Edward Mallinckrodt Jr., Foundation, February 6, 1963	5,000.00
Donations from doctors of medicine members	4,637.00
Individual gifts from non-medical donors	1,260.00
Donations from county medical societies	200.00
Tribute donations, memorials, etc.	2,895.00
Total contributions	$88,992.00
Interest received on loans made	44.99
Total Income	$89,036.99

DISBURSEMENTS

Total loans to date (182 to 81 students)	$84,520.00
Less loans repaid to fund	1,000.00
Loans outstanding	$83,520.00
Balance on hand, March 25, 1963	$ 5,516.99

Dr. Furlow urged that all members of the State Medical Association assist in raising money for the Foundation from outside sources whenever this is possible. He explained that the Woman's Auxiliary of the MSMA has had a relatively small medical student loan fund for a number of years and that they are at the present time considering whether to continue with the fund, give it to AMA-ERF, or turn it over to the MSMF.

The matter of the Auxiliary fund and its disposition was discussed by Drs. Furlow, Bull, Tillman, Hollweg, Whitener, Perry, Mr. McIntyre and Mr. O'Brien. In this discussion, differences in rates of interest charged for the AMA-ERF loans and that charged by the MSMF were pinpointed. Following discussion of this matter a motion was made, seconded and approved, that the Board of Trustees of the Foundation consider asking the Auxiliary to appoint one or more members of their organization to serve with the Board of Trustees of the Foundation until such time as the By-Laws may be changed to make this a permanent situation if legally acceptable.

President Furlow called for the next order of business which was the election of one member to the Board of Trustees for a term of five years, such member to replace Dr. Kenneth Hollweg, who in assuming the office as President of the MSMA becomes an ex-officio member of the board. Dr. Byron Stuart nominated Dr. Hector Benoit of Kansas City for this position on the

---

* Figures do not include income from 1963 MSMA assessments voted for the foundation.

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Each No. 2 capsule contains 15 mg. of Dexedrine® (brand of dextro amphetamine sulfate) and $1\frac{1}{2}$ gr. of amobarbital, derivative of barbituric acid [Warning, may be habit forming]. Each No. 1 capsule contains 10 mg. of Dexedrine (brand of dextro amphetamine sulfate) and 1 gr. of amobarbital [Warning, may be habit forming].

The active ingredients of the 'Spansule' capsule are so prepared that a therapeutic dose is released promptly and the remaining medication, released gradually and without interruption, sustains the effect for 10 to 12 hours.

INDICATIONS: (1) For control of appetite in overweight; (2) for mood elevation in depressive states.

USUAL DOSAGE: One 'Dexamyl' *Spansule* capsule taken in the morning.

SIDE EFFECTS: Insomnia, excitability and increased motor activity are infrequent and ordinarily mild.

CAUTIONS: Use with caution in patients hypersensitive to sympathomimetics or barbiturates and in coronary or cardiovascular disease or severe hypertension. Excessive use of the amphetamines by unstable individuals may result in a psychological dependence; in these rare instances withdrawal of medication is recommended. It is generally recognized that in pregnant patients all medications should be used cautiously, especially in the first trimester.

SUPPLIED: Bottles of 50 capsules.

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board. The motion was duly seconded. No other nominations were offered so the nominations were closed and Dr. Benoit was duly elected.

The President then announced there would be a short meeting of the Board of Trustees immediately following the adjournment of the annual meeting of the Foundation. He then called for any additional business old or new; there being none, the meeting was adjourned.

MISSOURI STATE MEDICAL FOUNDATION BOARD OF TRUSTEES, MUEHLEBACH HOTEL, KANSAS CITY, MARCH 25, 1963

The meeting of the Board of Trustees was called to order by Leonard T. Furlow, M.D., President, in Room 3 of the Muehlebach Hotel, immediately following the adjournment of the annual meeting of the Missouri State Medical Foundation.

Present were: Drs. Leonard T. Furlow, Charles R. Doyle, St. Louis; Ben M. Bull, Ironton; Kenneth C. Hollweg, Kansas City; W. W. Tillman Jr., Springfield; and Mr. Ray McIntyre, St. Louis.

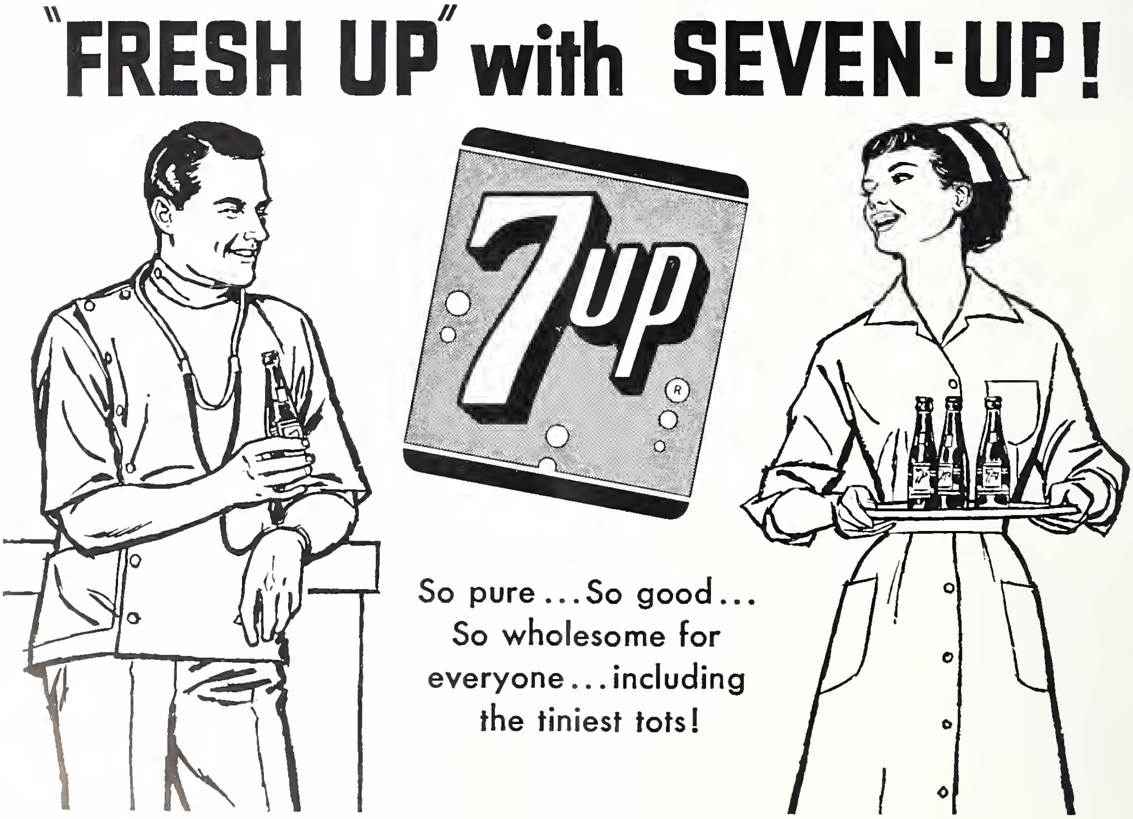
Dr. Furlow explained that the purpose of this meeting was for the election of officers, following which he requested that Dr. Hollweg, Vice President of the Foundation, assume the chair. Dr. Hollweg called for nominations for the office of President. The name of Dr. Leonard T. Furlow was placed in nomination. No further nominations were offered and Dr. Furlow was unanimously elected President.

Dr. Furlow assumed the position as President and called for nominations for the office of Vice President.

Drs. Bull, Tillman, Furlow, Hollweg and Doyle attended the meeting of the Board of Trustees of the Missouri State Medical Foundation.

The name of Ben Bull was placed in nomination. No other nominations were offered and Dr. Bull was unanimously elected Vice President.

Nominations were requested for Secretary-Treasurer,



the name of Dr. Charles R. Doyle, was presented. There being no additional nominations, Dr. Doyle was unanimously elected Secretary-Treasurer.

A motion was made, seconded and passed, that the following committee of the board be authorized to make loans to medical students, residents of Missouri, in the name of the Missouri State Medical Foundation, using funds of the Foundation for that purpose: Drs. Furlow, Doyle and R. O. Muether, all of St. Louis.

Mr. Ray McIntyre was reappointed Assistant Secretary to assist in the administration of the Foundation's program. There being no further business the Board of Trustees adjourned at 6:30 p.m.

CHARLES R. DOYLE, M.D., *Secretary*

The Roster issue of MISSOURI MEDICINE will go to members and subscribers near the middle of July.

This issue will contain officers and committee members, list of Councilors and map of councilor districts, officers of county medical societies, an alphabetical list of members and membership roster by county societies.

It will also contain a list of officers of the Woman's Auxiliary and the membership of the Woman's Auxiliary by counties.

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PHYSICIAN NEEDED in progressive community in North West fringe of Ozarks where new lake area is now a Government project. Excellent trade area and town of 8,000 with 50 bed general hospital. Now have 5 general practitioners and 1 general surgeon in area who will assist proper individual in any way to become established. If interested, contact Richard H. King, M.D., 106 S. Third Street, Clinton, Mo.

WANTED: Physician with training in general practice or internal medicine for general practice in four-man group. College town of 5,000 near Kansas City. Two open staff hospitals. Early partnership. No investment required. Paid vacations, study period. Starting salary $12,000. Write, Medical Clinic, Lexington, Missouri.

FOR SALE—Modern office, laboratory and x-ray equipment. Southeast Missouri farming area with associated commerce. Population 2800 with incorporated school system. Middle class practice. $55,000 gross; Staff privileges. Specializing. Write Box 288, c/o Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Mo.

WANTED—Internist, Board qualified, for large hospital. Wrote Box 287, c/o Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Mo.

TWO INTERNISTS WANTED: Unusual opportunity to join a young, multi-specialty group. Salary $18,000 first year with rapid acceleration to partnership. Exceptional clinic and hospital facilities in Midwest town of 30,000 which is the Medical Center of a large trade area and a fine place to raise a family. Write Box 283, Missouri State Medical Association, 623 Missouri Theater Bldg., St. Louis 3, Mo.

WANTED: Associate under 50 in General Practice and Industrial Medicine. South St. Louis location. Modern and fully equipped office. No investment required. For information write Box 282, c/o Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Mo.

WANTED—Association or to purchase a practice. Write Box 286, c/o Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Mo.

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MISSOURI STATE MEDICAL MEDICAL ASSOCIATION

106th Annual Session, St. Louis

March 8, 9, 10, 11, 1964

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Cancer—Charles E. Lockhart, Springfield, Chairman (1964); Joseph L. Fisher, St. Joseph (1966); George A. Carroll, St. Louis (1965); John E. Lamy, Sedalia (1964); James R. McVay Jr., Kansas City (1965). **Associate Members**—E. J. Schewe, Columbia; H. C. Stricker, Jefferson City; Henry C. Allen, St. Louis; G. Neil Berry, Kansas City.

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Maternal Welfare—A. C. Trueblood, Clayton, Chairman (1964); Irwin T. Craig, Joplin (1966); H. C. Willumsen, St. Joseph (1965); William B. See, Columbia (1965); James E. Keeler, Kansas City (1964). **Associate Members**—C. G. Stauffacher, Sedalia; J. J. Wimp, Kirksville; MacDonald Bonebrake, Springfield; E. E. Wadlow, St. Joseph; Paul E. Kratz, Cape Girardeau; Eugene G. Hamilton, St. Louis; Robert S. Brown, Kansas City; Seymour Monat, St. Louis; Leonard A. Wall, Kansas City.

Infant and Child Care—James A. Kinder, Cape Girardeau, Chairman; E. J. Schwartz, Springfield; Daniel B. Landau, Hannibal; H. E. Petersen, St. Joseph; E. J. LaDriere, St. Louis; Guy N. Magness, University City; Clement E. Brooke, Columbia; James J. Pascoe, Nevada; Jack N. Wiles, West Plains; S. F. Cockerell, Independence.

Constitution and By-Laws—W. A. Bloom, Fayette, Chairman (1966); John F. Rutledge, Crystal City (1964); R. O. Muether, St. Louis (1964); H. M. Parker, Kansas City (1965); James R. Meador, Clayton (1965).

Trauma—Robert E. Funsch, St. Louis, Chairman (1964); Wilbur P. McDonald, St. Joseph (1966); Thomas G. Otto, Cape Girardeau (1966); Paul W. Meyer, Kansas City (1965); Richard E. Lord, St. Louis (1965). **Associate Members**—Howard J. McAlhaney, Springfield; Otis E. James, Kansas City; Glenn McElroy, Columbia.

Eye Health—John McLeod, Kansas City, Chairman (1965); Paul G. Wolff, Cape Girardeau (1966); Michael F. Pernoud, St. Louis (1964); H. B. Ivy, Springfield (1964); H. B. Stauffer, Jefferson City (1964). **Associate Members**—Dick H. Underwood, Kansas City; S. Albert Hanser, St. Louis; Paul M. Beck, St. Joseph; D. E. Eggleston, Macon; W. L. Post, Joplin; John A. Buesseler, Columbia; George Mandler, Chillicothe; Robert S. Minton, St. Joseph.

Laboratory Medicine—Henry Sweets, Hannibal, Chairman (1965); David F. Gorelick, Springfield (1966); T. J. Cooper, St. Louis (1966); Eugene F. Tucker, St. Louis (1964); Charles B. Wheeler, Kansas City (1965).

Industrial Health—William H. Duncan, Kansas City, Chairman (1964); Douglas A. Ries, St. Louis (1966); R. A. Sutter, University City (1966); Vencel W. Hollo, St. Louis (1964); S. W. Scorse, Joplin (1965). **Associate Members**—James W. Clawson, Springfield; Van W. Taylor, Bonne Terre; William L. Macon, St. Louis.

Diabetes—H. E. Oppenheimer, Clayton, Chairman (1966); Harold K. Roberts, St. Louis (1966); G. Bruce Lemmon, Springfield (1964); H. M. Gilkey, Kansas City (1964); Lucien W. Ide, St. Joseph (1965). **Associate Members**—William H. Olmsted, St. Louis; Ralph S. Casford, Kansas City; Thomas W. Burns, Columbia; Robert E. Koch, Clayton.

Anesthesiology—W. W. Tillman, Springfield, Chairman (1966); Carl K. Ness, St. Joseph (1966); S. Ross Melgaard, Kansas City (1964); George W. Chesney, Joplin (1964); Edward O. Kraft, St. Louis (1965). **Associate Members**—Kenneth K. Keown, Columbia; George Weeks, Cape Girardeau.

Control of Venereal Disease—Edwin M. Powell, Springfield, Chairman (1965); Robert B. Bristow, St. Joseph (1966); John E. Byrne, St. Louis (1964); A. W. Neilson, St. Louis (1964); T. E. McMillan, Kansas City (1965). **Associate Members**—A. E. Belden, Jefferson City; L. R. Seabaugh, Cape Girardeau.

Physical Medicine and Rehabilitation—D. Elliott O'Reilly, St. Louis, Chairman (1964); Robert H. Fitzgerald, Independence (1966); F. O. Tietjen, Jefferson City (1964); F. D. Sundstrom, Springfield (1965); James M. Baker, Columbia (1965). **Associate Members**—Otakar Machek, St. Louis; Edward Shires, Kansas City; John W. Deyton, St. Louis; Lester Wolcott, Columbia.

Civil Defense Disaster Medical Care—Carl D. Siegel, Sedalia, Chairman; John T. Crowe, Cape Girardeau; H. D. Steinbeck, Union; Carroll P. Hungate, Kansas City; William F. Bell, Lee's Summit; John H. Walterscheid, Hannibal; Curtis H. Lohr, Clayton; R. Ned White, Springfield; George E. Thoma, St. Louis; George L. Watkins, Farmington; O. P. Hampton, St. Louis; J. S. Sanders, Jefferson City (1964).

Aging—Stanley S. Peterson, Springfield, Chairman (1964); Ralph Perry, Kansas City (1966); C. Thorpe Ray, Columbia (1966); R. O. Muether, St. Louis (1964); Rolla B. Wray, Nevada (1965). **Associate Members**—Robert C. Kingsland, Clayton; Robert H. Tanner, Jefferson City; Don H. Giesler, Osceola; John A. Griffith, Kansas City; John W. Daake, St. Louis; J. H. Summers, Lebanon.

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Study of Cardiac Disease—James G. Janney, St. Louis, Chairman; Earl L. Loyd. Jefferson City; William I. Park, Springfield; William J. Shaw Sr., Fayette; Jack M. Martt, Columbia; Robert Mosser, Independence; William J. Gillespie, St. Louis; Caryl A. Potter, St. Joseph; F. J. Biggs, Poplar Bluff; Joseph C. Edwards, St. Louis; J. Will Fleming, Moberly (1964).

Rural Medical Service—B. J. Bass, Salem, Chairman; Robert E. Tribble, Chaffee; James H. Sweiger, Maysville; K. S. Latham, California; H. F. Hoelscher, Warrenton; James E. Campbell, Macon; Charles A. Worley, Sweet Springs; Fred L. Wommack, Crane (1964).

Public Service—O. B. Barger, Harrisonville, Chairman; Kenneth C. Hollweg, Kansas City; Armand Brodeur, St. Louis; Fred L. Wommack, Crane; Leonard T. Furlow, St. Louis (1964).

Corporate Practice—Leonard T. Furlow, St. Louis, Chairman; Kenneth C. Hollweg, Kansas City; Avery P. Rowlette, Moberly; Robert H. Lund, Clayton; Donald H. Giesler, Osceola; John P. Ferguson, Springfield; Robert Kelley, St. Louis; Ray D. Williams, St. Louis; Hector W. Benoit Jr., Kansas City.

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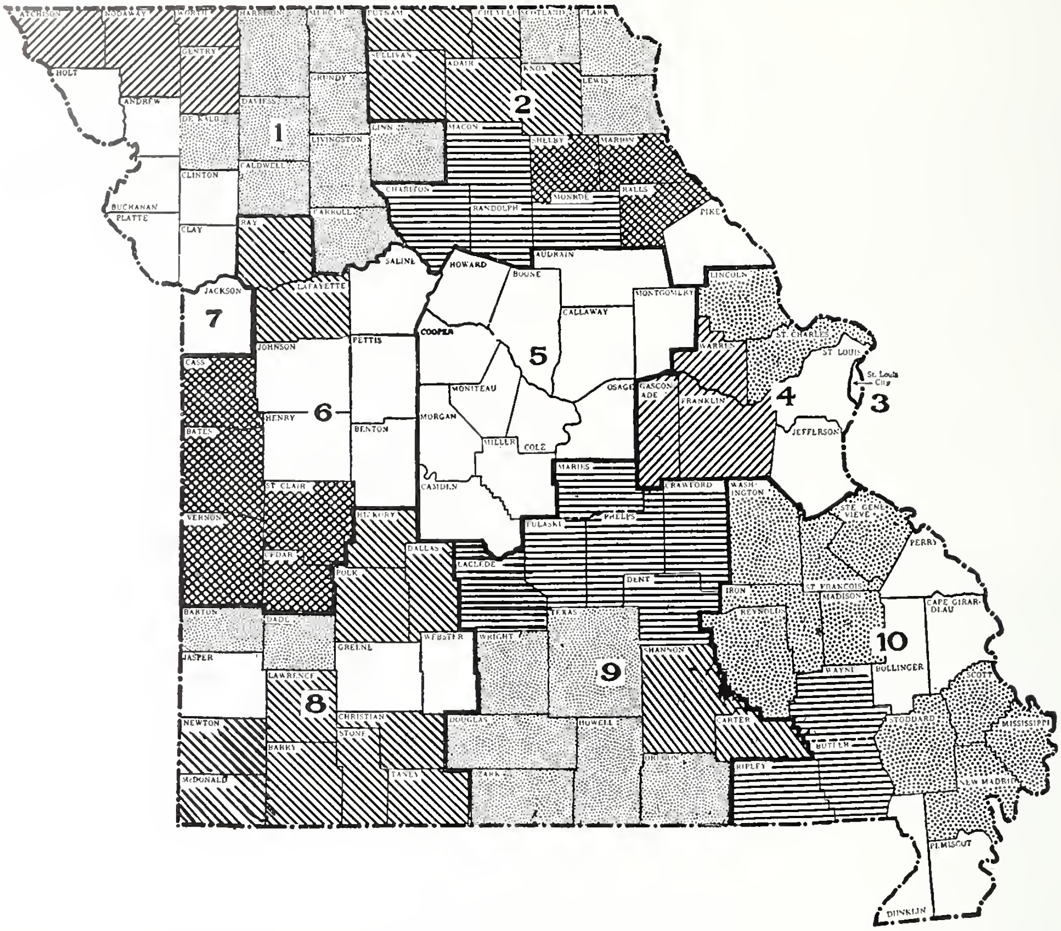
ATCHISON
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CLARK
HOLT
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ADAIR
KNOX
LEWIS
ANDREW
DE KALB
DAVIESS
GRUNDY
1
2
LINN
MACON
SHELBY
MARION
LIVINGSTON
CALDWELL
CLINTON
BUCHANAN
PLATTE
CHARITON
RANDOLPH
MONROE
RALLS
CLAY
RAY
CARROLL
PIKE
SALINE
HOWARD
AUDRAIN
BOONE
LINCOLN
JACKSON
LAFAYETTE
7
MONTGOMERY
CALLAWAY
ST CHARLES
JOHNSON
PETTIS
COOPER
5
WARREN
ST LOUIS
St. Louis City
3
4
CASS
MONITEAU
OSAGE
GASCONADE
FRANKLIN
HENRY
6
BENTON
MORGAN
JEFFERSON
BATES
MILLER
COLE
MARIES
CAMDEN
ST CLAIR
CRAWFORD
WASHINGTON
STE GENEVIEVE
HICKORY
PHELPS
VERNON
PULASKI
PERRY
DALLAS
CEDAR
LACLEDE
POLK
DENT
IRON
ST FRANCOIS
MADISON
CAPE GIRARDEAU
BARTON
TEXAS
REYNOLDS
DADE
WEBSTER
WRIGHT
10
JASPER
GREENE
SHANNON
WAYNE
BOLLINGER
9
LAWRENCE
8
SCOTT
CHRISTIAN
NEWTON
STONE
DOUGLAS
HOWELL
CARTER
STODDARD
MISSISSIPPI
BARRY
BUTLER
TANEY
OZARK
OREGON
RIPLEY
NEW MADRID
McDONALD
PEMISCOT
DUNKLIN

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O. B. BARGER, Harrisonville, Vice Chairman.

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Second District: Councilor, Harry L. Greene, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, James M. Macnish, St. Louis. Counties: St. Louis City.

Fourth District: Councilor, Paul R. Whitener, St. Louis. Counties: Franklin, Gasconade, Jefferson, Lincoln, St. Charles, St. Louis County, Warren.

Fifth District: Councilor, Byron M. Stuart, Boonville. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, Howard, Miller, Moniteau, Montgomery, Morgan, *Osage*.

Sixth District: Councilor, O. B. Barger, Harrisonville. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, Ray, St. Clair, Saline, Vernon.

Seventh District: Councilor, Hector W. Benoit Jr., Kansas City. County: Jackson.

Eighth District: Councilor, Doyle C. McCraw, Bolivar. Counties: Barry, Barton, Christian, Dade, Dallas, Greene, Hickory, Jasper, Lawrence, McDonald, Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, E. A. Stricker, St. James. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Maries, Oregon, Ozark, Phelps, Pulaski, Shannon, Texas, Wright.

Tenth District: Councilor, W. D. English, Cardwell. Counties: *Bollinger*, Butler, Cape Girardeau, Dunklin, Iron, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, Ripley, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, Wayne.

Shaded areas show hyphenated component societies. Counties listed in italics are unorganized.

Component Societies in Affiliation With the Missouri State Medical Association

COUNTY	DISTRICT	PRESIDENT	ADDRESS	SECRETARY	ADDRESS
Andrew	1	V. R. Wilson	Rosendale	Warren G. Baker	Savannah
Audrain	5	Harry F. O'Brien	Mexico	Gordon Shaw	Mexico
Barton-Dade	8	Herbert M. Arnold	Lamar	T. W. Carroll	Lamar
Benton	6			James A. Logan	Warsaw
Boone	5	John T. Logue	Columbia	John H. Walters	Columbia
Buchanan	1	John R. McDaniel	St. Joseph	William Redmond	St. Joseph
Butler-Wayne-Ripley	10	John L. Wright	Poplar Bluff	C. Phil Cheatham	Poplar Bluff
Callaway	5	William Cremer	Fulton	Vernon B. Jackson	Fulton
Cape Girardeau	10	Wm. O. L. Seabaugh	Cape Girardeau	George E. Magaletta	Cape Girardeau
Carter-Shannon	9	H. D. Rollins	Winona		
Chariton-Macon-Monroe-Randolph	2	Josephine Baker	Moberly	J. Will Fleming Jr.	Moberly
Clay	1	Edward H. Fischer	N. Kansas City	John M. Williams	Liberty
Clinton	1	W. B. Spaulding	Plattsburg	J. P. Mabrey	Plattsburg
Cole	5	C. Stuart Exon	Jefferson City	James T. Leslie Jr.	Jefferson City
Cooper	5	M. L. Diekroeger	Boonville	D. Hata	Boonville
Dallas-Hickory-Polk	8	O. A. Griffin	Buffalo	Mary E. P. Griffin	Buffalo
Dunklin	10	Charles R. Cash	Kennett	E. L. Spence	Kennett
Franklin-Gasconade-Warren	4	James G. Shea	Gerald	Samuel C. Bonney	Washington
Grand River Medical Society (Caldwell-Livingston-Carroll-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb)	1	George Gary	Marceline	Jack L. Vinyard	Carrollton
Greene	8	Harry D. Silsby	Springfield	Guy D. Callaway Jr.	Springfield
Henry	6			R. S. Hollingsworth	Clinton
Howard	5	J. W. Gardner	Glasgow	M. P. Leech	Fayette
Jackson	7	Gerald A. Miller	Kansas City	Edward H. Stratemeier	Kansas City
Jasper	8	Gregory A. Schulte	Joplin	David O. Allen	Joplin
Jefferson	4	R. Bolgar	Festus	Frank L. Kozal	Crystal City
Johnson	6	M. Garza Gonzalez	Warrensburg	Charles M. Lederer	Warrensburg
Lafayette-Ray	6	George K. Davault	Richmond	Wayne Boydston	Odessa
Lewis-Clark-Scotland	2			L. Y. Davis	Canton
Lincoln-St. Charles	4	Robert Keller	Wentzville	Robert Fleming	St. Charles
Marion-Ralls-Shelby	2	Wyeth Hamlin	Hannibal	John H. Walterscheid	Hannibal
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede	9	B. J. Bass	Salem	M. K. Underwood	Rolla
Miller	5			C. T. Buehler	Eldon
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)	10	A. G. Karraker	Farmington	Charles W. Chastain	Farmington
Moniteau	5	K. S. Latham	California	L. M. Gallagher	California
Montgomery	5	E. J. T. Andersen	Montgomery City	Samuel J. Byland	Wellsville
Morgan	5	Jack Gunn	Versailles	J. Loren Washburn	Versailles
Nodaway-Holt-Atchison-Gentry-Worth	1	George Wempe	Maryville	Frank B. Matteson	Grant City
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	Paul E. Hilton	Kirksville	Edward M. Grim	Kirksville
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)	8	William J. Glass Jr.	Monett	Paul B. Anderson	Neosho
Pemiscot	10	James Grable	Portageville	James C. Strittmatter	Caruthersville
Perry	10	James F. Fairchild	Perryville	A. E. McDermott	Perryville
Pettis	6	D. R. Edwards	Sedalia	John C. Brazos	Smithton
Pike	2	W. Joe Martin	Louisiana	E. J. Jackson	Louisiana
Platte	1	H. Graham Parker	Platte City	H. C. Thurman	Parkville
St. Louis City	3	Charles S. Sherwin	St. Louis	James W. Owens Jr.	St. Louis
St. Louis County	4	Robert A. Mayer	Clayton	E. V. Cowdry Jr.	St. Louis
Saline	6	Richard F. Aiken	Marshall	C. A. McBurney	Slater
Semo County Medical Society (Stoddard-New Madrid-Mississippi-Scott)	10	John Dernoncourt	Charleston	Thelma C. Buckthorpe	Sikeston
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)	9	Joe Wall	Houston	Rollin H. Smith	West Plains
Webster	8	C. R. Macdonnell	Marshfield	E. G. Beers	Seymour
West Central Missouri Medical Society (Bates-Gass-Gedar-St. Clair-Vernon)	6	Edward S. Jones	Harrisonville	Carter W. Luter	Butler

Towns, Counties and Component Societies

A

Adrian, Bates, West Central
Affton, St. Louis*
Albany, Gentry, Nodaway-Holt-Atchison-Gentry-Worth
Altenberg, Perry
Aurora, Lawrence, Ozarks
Ava, Douglas, South Central

B

Ballwin, St. Louis*
Belton, Cass, West Central
Berger, Franklin
Berkeley, St. Louis*
Bethany, Harrison, Grand River
Bloomfield, Stoddard, SEMO
Blue Springs, Jackson
Bolivar, Polk, Dallas-Hickory-Polk
Bonne Terre, St. Francois, Mineral Area
Boonville, Cooper
Bourbon, Crawford, Mid Missouri
Bowling Green, Pike
Branson, Taney, Ozarks
Braymer, Caldwell, Grand River
Brentwood, St. Louis*
Bridgeton, St. Louis*
Brookfield, Linn, Grand River
Browning, Linn, Grand River
Brunswick, Chariton
Buffalo, Dallas
Butler, Bates, West Central

C

Cabool, Texas, South Central
Cainsville, Harrison, Grand River
California, Moniteau
Camdenton, Camden
Cameron, Clinton
Canton, Lewis
Cape Girardeau, Cape Girardeau
Cardwell, Dunklin
Carl Junction, Jasper
Carrollton, Carroll, Grand River
Carthage, Jasper
Caruthersville, Pemiscot
Cassville, Barry, Ozarks
Centralia, Boone
Chaffee, Scott, SEMO
Charleston, Mississippi, SEMO
Chesterfield, St. Louis*
Chillicothe, Livingston, Grand River
Clarksville, Pike
Clayton, St. Louis*
Clinton, Henry
Columbia, Boone
Concordia, Lafayette
Crane, Stone, Ozarks
Creve Coeur, St. Louis*
Crystal City, Jefferson
Cuba, Crawford, Mid Missouri

D

Desloge, St. Francois, Mineral Area
DeSoto, Jefferson
Dexter, Stoddard, SEMO
Doniphan, Ripley, Butler-Ripley-Wayne
Drexel, Cass, West Central

E

East Prairie, Mississippi, SEMO
Edgerton, Platte
Edina, Knox, North Central
Eldon, Miller
El Dorado Springs, Cedar, West Central
Elsberry, Lincoln
Everton, Jackson
Excelsior Springs, Clay

F

Farber, Audrain
Farmington, St. Francois, Mineral Area
Faucett, Buchanan
Fayette, Howard
Fenton, St. Louis*
Ferguson, St. Louis*
Festus, Jefferson
Flat River, St. Francois, Mineral Area
Florissant, St. Louis*
Forsyth, Taney, Ozarks
Fort Leonard Wood, Phelps, Mid Missouri
Fredericktown, Madison, Mineral Area
Frontenac, St. Louis*
Fulton, Callaway

G

Gallatin, Daviess, Grand River
Gashland, Clay
Gideon, New Madrid, SEMO
Gladden, St. Louis*
Glasgow, Howard
Glendale, St. Louis*
Gordonville, Cape Girardeau
Grandview, Jackson
Grant City, Worth, Nodaway-Holt-Atchison-Gentry-Worth
Gravois Mills, Jackson
Greenfield, Dade, Barton-Dade

H

Hamilton, Caldwell, Grand River
Hannibal, Marion
Harrisonville, Cass, West Central
Hartville, Wright, South Central
Hayti, Pemiscot
Herculaneum, Jefferson
Hermann, Gasconade, Franklin-Gasconade-Warren
Hickman Mills, Jackson
Higginsville, Lafayette
Hillsboro, Jefferson
Holden, Johnson
Hopkins, Nodaway
Hornersville, Dunkin
Houston, Texas, South Central
Houstonia, Pettis
Humansville, Polk, Dallas-Hickory-Polk
Hume, Bates, West Central
Huntsville, Randolph, Chariton-Macon-Monroe-Randolph

I

Illmo, Cape Girardeau
Independence, Jackson
Ironton, Iron, Mineral Area

J

Jackson, Cape Girardeau
Jefferson Barracks, St. Louis*
Jefferson City, Cole
Jennings, St. Louis*
Joplin, Jasper

K

Kansas City, Jackson
Kennett, Dunklin
Kimmswick, Jefferson
King City, Gentry, Nodaway-Holt-Atchison-Gentry-Worth
Kirksville, Adair, North Central
Kirkwood, St. Louis*
Knobnoster, Johnson
Koch, St. Louis*

L

Ladue, St. Louis*
Lakeview Heights, Benton
Lamar, Barton
Leadwood, St. Francois, Mineral Area
Leasburg, Crawford, Mid Missouri
Lebanon, Laclede, Mid Missouri
Lee's Summit, Jackson
Leeton, Johnson
Lemay, St. Louis*
Lexington, Lafayette
Liberty, Clay
Lockwood, Dade, Barton-Dade
Louisiana, Pike

M

Macon, Macon, Chariton-Macon-Monroe-Randolph
Malden, Dunklin
Maplewood, St. Louis*
Marceline, Linn, Grand River
Marshall, Saline
Marshfield, Webster
Marthasville, Warren, Franklin-Gasconade-Warren
Martin City, Jackson
Maryville, Nodaway
Maysville, De Kalb, Grand River
Mexico, Audrain
Milan, Sullivan, North Central
Miller, Lawrence, Ozarks
Moberly, Randolph, Chariton-Macon-Monroe-Randolph
Monett, Barry, Ozarks
Montgomery City, Montgomery
Morehouse, New Madrid, SEMO
Morrisville, Polk, Dallas-Hickory-Polk
Mound City, Holt, Nodaway-Holt-Atchison-Gentry-Worth
Mountain Grove, Wright, South Central
Mountain View, Howell, South Central
Mount Vernon, Lawrence, Ozarks

N

Neosho, Newton, Ozarks
Nevada, Vernon, West Central
New Florence, Montgomery
New Haven, Franklin
New Madrid, New Madrid, SEMO
Nixa, Christian, Ozarks
Noel, McDonald, Ozarks
Norborne, Carroll, Grand River
Normandy, St. Louis*
North Kansas City, Clay

O

Oak Grove, Jackson
Odessa, Lafayette
O'Fallon, St. Charles, Lincoln-St. Charles
Olivette, St. Louis*
Oran, Scott
Osceola, St. Clair, West Central
Overland, St. Louis*
Owensville, Gasconade, Franklin-Gasconade-Warren
Ozark, Christian, Ozarks

P

Pacific, Franklin
Palmyra, Marion
Paris, Monroe, Chariton-Macon-Monroe-Randolph
Parkville, Platte
Parma, New Madrid, SEMO
Pattonsburg, Daviess, Grand River
Pattonville, St. Louis*
Perryville, Perry
Piedmont, Wayne, Butler-Ripley-Wayne
Pilot Grove, Cooper
Pine Lawn, St. Louis*
Platte City, Platte
Plattsburg, Clinton
Pleasant Hill, Cass, West Central
Poplar Bluff, Butler
Portageville, New Madrid, SEMO
Potosi, Washington, Mineral Area
Princeton, Mercer, Grand River

R

Raytown, Jackson
Reeds, Jasper
Republic, Greene
Rich Hill, Bates, West Central
Richmond, Ray, Lafayette-Ray
Richmond Heights, St. Louis*
Ridgeway, Harrison, Grand River
Robertson, St. Louis*
Rock Hill, St. Louis*
Rockport, Atchison, Nodaway-Holt-Atchison-Gentry-Worth
Rolla, Phelps, Mid Missouri
Rosendale, Andrew

S

St. Ann, St. Louis*
St. Charles, St. Charles, Lincoln-St. Charles
St. Clair, Franklin
Ste. Genevieve, Ste Genevieve, Mineral Area
St. James, Phelps, Mid Missouri

St. Joseph, Buchanan
St. Louis City*
Salem, Dent, Mid Missouri
Salisbury, Chariton
Sappington, St. Louis*
Savannah, Andrew
Sedalia, Pettis
Sedgewickville, Bollinger
Senath, Dunklin
Seymour, Webster
Shelbina, Shelby, Marion-Ralls-Shelby
Shelbyville, Shelby, Marion-Ralls-Shelby
Shrewbury, St. Louis*
Sikeston, Scott, SEMO
Silex, Lincoln
Slater, Saline
Smithton, Pettis
Smithville, Clay
Springfield, Greene
Stanberry, Gentry, Nodaway- Holt-Atchison-Gentry-Worth
Steele, Pemiscot
Steelville, Crawford, Mid Missouri
Stockton, Cedar, West Central
Strafford, Greene
Strasburg, Cass, West Central
Sullivan, Franklin
Sweet Springs, Saline

T

Tarkio, Atchison, Nodaway-Holt-Atchison-Gentry-Worth
Thayer, Oregon, South Central
Tipton, Moniteau
Trenton, Grundy, Grand River
Troy, Lincoln

U

Union, Franklin
Unionville, Putnam, North Central
University City, St. Louis*

V

Valley Park, St. Louis*
Vandalia, Audrain
Versailles, Morgan

W

Wardell, Pemiscot
Warrensburg, Johnson
Warrenton, Warren, Franklin-Gasconade-Warren
Warsaw, Benton
Washington, Franklin
Waverly, Lafayette
Waynesville, Pulaski, Mid Missouri
Webb City, Jasper
Webster Groves, St. Louis*
Wellsville, Montgomery
Wentzville, St. Charles, Lincoln-St. Charles
West Plains, Howell, South Central
Willow Springs, Howell, South Central
Windsor, Henry
Winona, Shannon, Carter-Shannon
Winston, Daviess, Grand River

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* Member may belong to St. Louis County Medical Society or St. Louis Medical Society.

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Adler, Federico, Kansas City
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Bishop, Mary M., Ferguson
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Blalock, William N., St. Louis
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Bock, Lux H., St. Louis
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Boydston, W. Wayne, Odessa
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Bradley, William W., Farber
Bradshaw, W. D., Clinton
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Brady, Hugh S., Concordia
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Brasher, Charles A., Mount Vernon
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Brennan, John A., Farmington
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Brennan, Raymond J., Chillicothe
Brennan, Robert A., St. Louis
Brennan, Robert V., St. Louis
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Brewster, Charlotte M., Kansas City
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Brodeur, Armand E., Kirkwood
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Brookes, Henry S. Jr., St. Louis
Brookes, Robert D., St. Louis
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Broun, Goronwy O. Jr., St. Louis
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Brown, James B., St. Louis
Brown, James L., St. Louis
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Brown, John J., Fulton
Brown, Lyman D., Springfield
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Brown, William S., St. Louis
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Bruce, Paul C., Excelsior Springs
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Bryant, William O., Hayti
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Bumgarner, Roger W., Columbia
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Busiek, Urban J., Springfield
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Byrne, Paul A., St. Louis

C

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Carpenter, George W., Chillicothe
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Carroll, Grayson, St. Louis
Carroll, Percy J., Clayton
Carroll, Thomas W., Lamar
Carron, Oscar A., Perryville
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Carter, Howard, Kansas City

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Carter, John F., St. Louis
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Catanzaro, Francis J., St. Louis
Catanzaro, Rudolph E., St. Louis
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Chapman, Jerry R., Steele
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Chastain, Maurice W., N. Kansas City
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Cherre, Charles J., St. Louis
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Clark, Irving H., Kansas City
Clark, James F., St. Louis
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Cline, Merle A., Kansas City
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Clithero, William H., Duarte, Calif. (Member St. Louis Medical Society)
Coates, Thomas A., St. Louis
Coburn, Donald F., Kansas City
Cochran, Donald Q., Columbia
Cochran, Jo R., Cape Girardeau
Cochran, Thomas E. Jr., Springfield
Cochrane, Joseph J., Kansas City
Cockerell, Sanford F., Independence
Coffee, Amos L., Willow Springs
Coffey, Ralph R., Kansas City
Coffin, Ernest L., Lakeworth, Fla. (Member St. Louis Medical Society)
Coffin, Theodore A., Kansas City
Coffman, Esther E. L., Lakeworth, Fla. (Member Ozarks Medical Society)
Cohen, Benjamin H., Clayton
Cohen, Frank, St. Ann
Cohen, Harry K., Kansas City
Cohen, Hilliard, Kansas City
Cohen, Louis, St. Louis
Cohle, Richard R., Carthage
Cohnberg, Rosellen E., Monett
Cohrs, Clarence C., Moberly
Coil, Paul E., Mexico
Cokrhame, Jack, St. Louis
Coldwater, Kenneth B., St. Louis
Cole, William R., St. Louis
Coleman, William G., St. Louis
Colglazier, Mary C., Kansas City
Coller, Frederick B., Springfield
Collins, Gretchen D., Macon
Collins, John M., St. Louis
Collodi, George A., Brentwood
Colom, George A., Kansas City
Combs, Joe D., Nevada
Comeau, Richard A., Dexter
Comens, Phillip, St. Louis
Comens, Ruth C., St. Louis
Commerford, James J., Crystal City
Commerford, John F., St. Charles
Compton, James R., Whittier, Calif. (Member St. Louis County Medical Society)
Cone, Alfred J., Chesterfield
Connell, Evan S., Kansas City
Conrad, Adolph H. Jr., St. Louis
Conrad, Joseph A., Chillicothe
Conrad, Marshall B., Clayton
Conrad, Raymond C., Springfield
Cook, Jerome E., St. Louis
Cook, Ralph L., St. Louis
Cook, Oliver W., Caruthersville
Cook, Thomas B., Richmond
Cooper, Charles S., Kansas City
Cooper, Claude W., Thayer
Cooper, Henry T., St. Louis
Cooper, John H., Kansas City
Cooper, Lawrence E., Ft. Myers, Fla. (Member Pemiscot County Medical Society)
Cooper, Leo F., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Cooper, Maurice E., Columbia
Cooper, R. Lee, Warrensburg
Cooper, Theodore, St. Louis
Cooper, Thomas J., St. Louis
Cope, James C., Columbia
Cope, Joseph S., Lexington
Copher, Glover H., St. Louis
Copp, Ralph Jr., St. Louis
Cordonnier, Justin, St. Louis
Correnti, Nicholas A., St. Louis
Cortner, Mary C., Kansas City
Cossins, Carlos E., St. Joseph
Costa, Dominic V., St. Louis
Costello, Cyril J., St. Louis
Costello, Joseph P. Jr., Brentwood
Costen, William S., St. Louis
Costrino, John J., University City
Costrino, Joseph A., St. Louis
Coughlin, Bertrand D., St. Louis
Counsell, Chester M., Kansas City
Cowan, Robert D., Aurora
Cowan, Watt O., Greenfield
Cowdry, Edmund V. Jr., St. Louis
Cowherd, Joseph B., Kansas City
Cox, Kenneth E., Kansas City
Cox, Mary E., St. Louis
Cox, William A., Jefferson City
Cox, William L., Liberty
Coxe, William S., St. Louis
Coyle, Frank L., St. Louis
Cozart, Duane E., University City
Craig, Irwin T., Joplin
Craig, Owen W. D., St. Joseph
Craig, Richard O., St. Joseph
Cramb, Arthur B., Lakeland, Fla. (Member North Central Counties Medical Society)
Crawford, Archie L., Joplin
Crawford, Katherine J., University City
Crawford, Oral B., Springfield
Crawford, Robert M., Sullivan
Creech, Joseph C., Troy
Crego, Clarence H. Jr., St. Louis
Cremer, William J., Fulton
Cresswell, George F., Potosi
Crews, Robert N., Fulton
Crider, Russell J., St. Charles
Criscione, James R., St. Louis
Crispell, Lawrence S., Joplin
Critchlow, William C., Sikeston
Crites, Edward, Sedgewickville
Crocker, Albert M., Kansas City
Crockett, James E., Kansas City
Croom, Dorwyn W., Malden
Crosby, Alice S., Salem
Crossman, Robert W., Webster Groves
Crouch, F. Richard, Farmington
Crow, Asa A., Cardwell
Crowe, John T., Cape Girardeau
Crowell, Hugh C., St. Louis
Crozier, Franklin A., Richmond
Cruvant, Bernard A., St. Louis
Culbertson, William F., Kansas City
Cullers, Charles H., Trenton
Cullum, Albert G. J., Middlesboro, Ky. (Member St. Louis County Medical Society)
Cummings, James H., St. Louis
Cunningham, Darral D., Springfield
Curran, Desmond, Kansas City
Curran, George L., Shawnee Mission, Kan. (Member St. Louis Medical Society)
Curran, Herbert A., St. Joseph
Curts, Calvin J., Kansas City
Cutcliff, Daniel J., Kansas City
Cutler, Harold M., St. Louis
Cutler, Harry, St. Louis
Czebrinski, Edward W., St. Louis

D

Daake, John W., St. Louis
Dabbs, LeRoy, St. Louis
Dahms, Gustave, St. Louis
Daley, Frank R., Hamilton
Dalton, Arthur R., St. Louis
Dalton, Timothy T., Kansas City
Daman, George A., St. Louis
Dames, Richard J., St. Louis
Damron, Edward O., Elsberry
Damron, Oscar H., Warrensburg
Danis, Peter G., St. Louis
Dankner, Arnold, Clayton
Dann, David S., Kansas City
Darnell, Thomas F. B., Columbia
Daughaday, William H., St. Louis
Daum, Harold F., Sedalia
Davault, George K., Richmond
Davenport, James F., Columbia
Davidson, John D., St. Louis
Davidson, Morris, Clayton
Davie, Joseph, St. Louis
Davis, C. Braxton, Nevada
Davis, Edgar W., St. Louis
Davis, Frank L., St. Louis
Davis, Herbert V., Kansas City
Davis, Irl R., St. Louis
Davis, Jack M., Kansas City
Davis, John J., Overland Park, Kan. (Member Jackson County Medical Society)
Davis, Kenneth A., Kansas City
Davis, Landis Y., Canton
Davis, Leonard L. Jr., Mexico
Davis, Martin W., St. Louis
Davis, Robert C., Kansas City
Davis, Wilbur L., Charleston
Day, Anthony B., Marshall
Day, Cameron B., Kansas City
Day, Maxwell, St. Joseph
Deakin, Rogers, St. Louis
Dean, Francis D., Fayette
Dean, Lee W. Jr., St. Louis
Decker, Albert I., Kansas City
DeGenova, Gerald H., Ste. Genevieve
DeHovitz, Bernard, St. Louis
Deitchman, Robert B., St. Louis
de la Torre, John J., Sullivan
Delzell, William A., Springfield
DeMaria, Peter F., Kansas City
Demko, Frank, St. Louis
Demko, William, St. Louis
DeMott, John D., Kansas City
DeMotte, John A., Kansas City
Dempsey, David T., Kennett
Denk, Alan F., St. Louis
Denney, Richard W., Mountain Grove
Dennie, Charles C., Kansas City
Denninghoff, James C., Columbia
Dennis, W. Paul, Flat River
Denny, Hubert M., Union
Denton, Jimmy E., St. Joseph
Dernoncourt, John E., Charleston
DeTar, Burleigh E., Joplin
DeTar, B. E. Jr., Joplin
Deutch, Max, St. Louis
Devine, John B., St. Louis
Devine, Joyce E., St. Louis
Dewald, Paul A., St. Louis
Deweese, Everett R., Kansas City
Dewein, Edward G., Rock Hill
Dexheimer, Frank R., Columbia
Deyton, John W., St. Louis
Dickerson, Omar B., St. Louis
Dickler, Donald J., St. Louis
Dickson, Frank D., Kansas City
Dieckman, William C., Dexter
Diehr, Alvin H., St. Louis
Diehr, Maurice A., St. Louis
Diekroeger, Manuel L., Boonville
Diemer, Peter A., St. Louis
Dietrich, Karl D., Columbia

Dietz, M. Wendell, Springfield
DiLeo, Senatro W., Jennings
Dill, Foster A., Maplewood
Dillard, Erin M., Springfield
Dills, Joseph N., Springfield
Dimond, Edgar A., Neosho
Dinelli, Frank E., Poplar Bluff
Diveley, Rexford L., Kansas City
Dixon, John R., Brookfield
Dixon, Otto J., Kansas City
Dixon, Viewiser L., Kansas City
Dlabal, Luke J., Independence
Dmytryk, Eugene T., St. Louis
Doane, William L., Grandview
Dobrow, David O., St. Louis
Dodd, Robert B., St. Louis
Dodge, Mark, Kansas City
Dodge, Milton, Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Doering, Robert W., Kansas City
Doggett, Sylvester, Sikeston
Doisy, Robert A., Glendale
Dolan, Daniel L., Springfield
Dolan, John T. Jr., St. Louis
Dolezal, Joseph B., Kansas City
Donahoe, James L., St. Louis
Donaldson, Robert C., St. Louis
Donati, Robert M., St. Louis
Donley, Leo F. Jr., St. Louis
Donley, Robert R., Monett
Donnell, Harold E., DeSoto
Donnell, Robert H., Crystal City
Donnell, Thomas A., DeSoto
Dorsch, Ervin H., Independence
Dorsett, E. Leo, Indianola, Miss.
(Member St. Louis Medical Society)
Doubek, John C., St. Louis
Douglass, Jesse E., Kansas City
Dowd, James F. Jr., St. Louis
Dowell, Donald M., Chillicothe
Dowell, J. Larry, Pattonsburg
Downey, James W., Kansas City
Doyle, Charles R., St. Louis
Doyle, Matthew J., Jefferson City
Drace, Charles C., St. Louis
Drace, Charles C. Jr., St. Louis
Drake, Avery A., Rolla
Drake, Roy F., Kansas City
Drake, Truman G., St. Louis
Drake, William L. Jr., St. Louis
Draney, Thomas E., Kansas City
Drennan, James A., San Leandro, Calif.
(Member St. Louis Medical Society)
Drescher, Emmett B., St. Louis
Drews, Robert C., St. Louis
Drey, Norman W., St. Louis
Dreyer, Carl J., Webster Groves
Dreyer, Philip V., Huntsville
Dreyer, William F., Houston
Drisko, Robert M., Kansas City
Drowns, Bruce V., Kansas City
Drum, Helen M., Clayton
Duane, George W., St. Louis
Dubuque, Theodore J. Jr., St. Louis
Duckworth, Gordon L. Jr., Hayti
Duden, Charles W., St. Louis
Duemler, John H., Gladden
Duer, Mildred C., Kansas City
Duffy, Francis G., St. Louis
Duffy, Oliver F., Trenton
Duggan, John J. Jr., Kirkwood
Dulick, Michael, Brentwood
Duling, Gerald J., St. Charles
DuMont, Clement C., St. Joseph
DuMontier, R. J., O'Fallon
Dunaway, Howard A., Sikeston
Duncan, Ralph E., Kansas City
Duncan, Robert D., Springfield
Duncan, William H., Kansas City
Dunham, Robert H., N. Kansas City
Dunleavy, James D., Kansas City
Dunmire, George Q., Kennett
Dunn, Robert E., St. Louis
Dunphy, Robert N., St. Louis
Dunshee, Robert E., Maryville
Durnell, Monaford D., Lee's Summit
Durst, Henry, Fulton
Dworkin, Saul, St. Louis
Dwyer, Frank X., Kansas City
Dwyer, Hugh L., Kansas City
Dwyer, Reinhardt D., N. Kansas City
Dwyer, Thomas L., Mexico
Dyer, Dallas J., St. Louis
Dyer, David P., Sedalia

E

Eades, Dee W., St. Louis
Eagleton, Mark D., Clayton
Earp, Ralph K., St. Louis
Eastwood, Robert A., Springfield
Ebel, Eugene H., St. Louis
Eber, Carl T., St. Louis
Eberle, John P., St. Louis
Eberle, Vincent L., St. Louis
Echterhoff, Harry R., St. Louis
Eck, Birkle, St. Louis
Ecker, Decider, Pacific
(Member St. Louis Medical Society)
Eckert, Clarence T., St. Louis
Ecklund, Archibald M., San Diego, Calif.
(Member St. Louis Medical Society)
Ector, Henry J., Mexico
Edde, Clifford G., Kansas City
Edele, Eugene H., St. Louis
Edmonds, Devilla D., Kansas City
Edwards, D. R., Sedalia
Edwards, Francis L., Monett
Edwards, Joseph C., St. Louis
Edwards, Theodore F., N. Kansas City
Edwards, Waldo B., Kirkwood
(Member Jefferson County Medical Society)
Efron, Joseph, Olivette
Egan, Thomas F., St. Louis
Eggers, George W. N. Jr., Columbia
Eggleston, Donald E., Macon
Egley, Loren E., St. Louis
Eidelman, Jack R., St. Louis
Eigel, Edwin G., St. Louis
Eimer, Charles E., St. Louis
Eisemann, Gustave, Kansas City
Eisenmann, Benjamin P., New Haven
Eisenstein, Albert B., St. Louis
Eklund, Alfred W., Pleasant Hill
Elders, Frank A. Jr., Cuba
Eldridge, Charles J., Kansas City
Elias, David J., Independence
Eliscu, Juliette, Joplin
Elkins, Ronald F., Springfield
Eller, C. Howe, Clayton
Ellersieck, Dorothy M., St. Louis
Ellett, William H., Appleton City
Elliott, James R., Pasadena, Calif.
(Member Jackson County Medical Society)
Elliott, Raymond G., Kansas City
Elliott, Wade E., Kansas City
Ellis, Burnett E., Gideon
Ellis, Calvin C., St. Louis
Ellis, Elmer F., Kansas City
Ellis, Francis J., Springfield
Ellison, Leroy E., Maplewood
Ellsworth, Willard, Cainsville
Elrod, Dennis B., Cape Girardeau
Elser, Otto H., Independence
Elson, Julius, Ladue
Emerson, Reynolds L., Brentwood
Emmert, Fred, St. Louis
Endlich, Harold L., Kansas City
Engle, Lawrence P., Kansas City
Engelhardt, Robert C., Poplar Bluff
Engelking, David F., Kansas City
English, Milton T. Jr., Kirksville
English, Wallace D., Cardwell
Engman, Martin F. Jr., St. Louis
Enloe, Lawrence D., Jefferson City
Enna, Carl D., Kansas City
Epp, George J., St. Louis
Epple, Kathryn C., Mexico
Epple, Lawrence K., Mexico
Erlanger, Joseph, St. Louis
Ernst, Edwin C., St. Louis
Ernst, Edwin C. Jr., St. Louis
Ernst, Joseph G., Oakland
Ernst, Richard E., St. Louis
Ernst, Roland P., St. Louis
Eshelman, Albert D., Independence
Eskeles, Irwin H., St. Louis
Esker, George, Nevada
Esslinger, Arthur T. J., St. Louis
Estes, Albert M., Cape Girardeau
Estes, Jack M., Ferguson
Eto, Jackson, St. Louis
Eubank, David F., Kansas City
Eubank, Dillard M., Raytown
Eubank, William R., Kansas City
Eubank, William Y., Kansas City
Evans, Alden M., Columbia
Evans, Ezra L. Jr., Springfield
Evans, Harry T., Branson
Eversoll, Norton J., Hollywood, Fla.
(Member St. Louis County Medical Society)
Ewert, John O., Sedalia
Exon, C. Stuart, Jefferson City
Eyermann, Charles H., St. Louis
Eyermann, H. Walter, Warrenton

F

Fakhoury, Donald A., Kansas City
Fair, William L., Chillicothe
Fairchild, James F., Perryville
Fairshter, Alex E., St. Louis
Falk, O. P. J., St. Louis
Fallet, Charles E., DeSoto
Farley, Claude C., Kansas City
Farley, William M., St. Louis
Farney, Jacob P., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Farnsworth, Jesse J., Kansas City
Farrar, Charles B., Cape Girardeau
Farrar, John T., Greenwich, Conn.
(Member St. Louis Medical Society)
Farrell, Robert J., St. Louis
Farthing, Fred R., Springfield
Farthing, Gene W., Springfield
Feierabend, Frank L., Kansas City
Feind, Earl E., Rolla
Feinstein, Leon A., St. Louis
Feist, George V., Kansas City
Feldaker, Robert M., St. Louis
Feldman, David, Clayton
Feller, Charles E., Springfield
Feller, Harold H., St. Louis
Fellhauer, Carl M., St. Louis
Feltz, Lawrence W., Perryville
Ferguson, Donald S., Kansas City
Ferguson, James T., Kansas City
Ferguson, John P. Jr., Springfield
Ferguson, L. H. Jr., Joplin
Ferguson, Luther J., St. Joseph
Ferguson, Ralph L., Joplin
Ferguson, Robert M., Webb City
Ferguson, Wilson J., Sikeston
Ferrara, John P., St. Louis
Ferrell, Thomas E. Jr., Springfield
Ferris, Carl R., Kansas City
Fessenden, Ersel M., Springfield
Finger, Donald H., St. Louis
Fingerhood, Marvin G., St. Louis
Fingert, Hyman H., St. Louis
Fink, LeRoy L., St. Louis
Finkel, Barney W., St. Louis
Finkle, Robert H., Independence
Finley, Freeman L., St. Louis
Finn, Murray E., St. Louis
Finnegan, Joseph V., St. Louis
Finney, William O., Chaffee
Fischer, Edward H., N. Kansas City
Fischer, Erich, St. Louis
Fischer, Theodore, Altenburg
Fischer, Thomas J., Hannibal
Fish, Virgil O., St. Louis
Fisher, George E., Lebanon
Fisher, Joseph L., St. Joseph
Fisher, Stanley D., Sedalia
Fitch, C. H. Max, Springfield
FitzGerald, Leo P., University City
Fitzgerald, Robert H., Independence
Fitzgerald, William T., St. Louis
Flance, Israel J., St. Louis
Flanders, Virgil E., Kansas City
Flatley, John A., Kansas City
Flavan, David B., St. Louis
Fleishman, Alfred, St. Louis
Fleming, Jacob W. Jr., Moberly
Fleming, Paul D., Clayton
Fleming, Robert J., St. Charles
Fleming, Royall B., Kansas City
Fleming, Thomas S., Moberly
Fletes, James W., St. Louis
Florian, Albert J., Kansas City
Flotte, Bernard H., St. Louis
Flotte, Sylvester A., Jennings
Flynn, Edward P., St. Louis
Flynn, John T., St. Louis
Flynn, Joseph E., St. Louis
Flynn, Thomas T., St. Louis
Focht, Ralph H., Strafford
Folck, William P., Kansas City
Folkner, A. L., Warrensburg
Ford, Lee T. Jr., St. Louis
Ford, Walter W., Gordonville
Ford, William, Farmington
Foreman, Phillip B., Hannibal
Forgrave, John R., St. Joseph
Forgrave, Leon P., St. Joseph
Forman, George W., St. Joseph
Forman, Louis H., Kansas City
Forsen, James A., St. Louis
Forsman, Waldo W. Jr., St. Louis
Forster, Armand C., St. Louis
Forsyth, B. Todd, St. Louis
Forsythe, Robert W., Kansas City
Forti, John J., St. Louis
Foster, Howard M., St. Louis
Foster, Jack L., Desloge

Foster, Leon, St. Louis
Foster, Robert L., St. Louis
Fouts, Dallas B. Sr., Independence
Fowler, Fred D., Kansas City
Fowler, I. Charles, N. Kansas City
Fowler, James W., Kansas City
Fowler, Marvin L., West Plains
Fox, Leon J., St. Louis
Fox, Robert E., St. Louis
Frame, Homer G., Springfield
Francis, William C., Springfield
Francka, W. F., Hannibal
Frank, Alvin R., St. Louis
Franklin, Curtis U., Kansas City
Franklin, Harold A., St. Louis
Franklin, Max S., St. Louis
Fraser, Richard A., St. Louis
Frazier, Robert L., Charleston
Fredeen, Robert C., Kansas City
Frederick, Raymond O., St. Louis
Freedman, Harold, St. Louis
Freedman, Ruth S., St. Louis
Freeman, David M., St. Louis
Freeman, Hal E., Springfield
Freeman, Spencer L., Kirksville
Freiheit, Harold J., St. Louis
Freimuth, L. E., St. Louis
Frein, Donald E., Leeton
Frerking, Herbert W., St. Louis
Freund, Felix G., St. Louis
Freund, H. G., Fulton
Freund, Samuel J., St. Louis
Frick, John P., Kansas City
Friedenberg, Marvin J., St. Louis
Friedman, Bernard, St. Louis
Friedman, Morris L., Kansas City
Friedman, Robert H., St. Louis
Friedrichs, Vernon D., Pilot Grove
Fries, Armand D., St. Louis
Fries, John W., St. Louis
Friskel, Arthur K., St. Louis
Fritsch, Andrew J., Joplin
Fritzlen, Thomas J., Kansas City
Froelich, Edwin J., St. Louis
Froelich, Rae W., Lebanon
Froelich, Robert E., Columbia
Fryer, Minot P., St. Louis
Fuchs, George J., Creve Coeur
Fuchs, George J. Jr., Columbia
Fuhrman, Donald L., Kansas City
Fulkerson, Wilbur E., Higginsville
Fulks, Richard B., California
Fulton, Albert E., Kansas City
Funsch, Robert E., St. Louis
Furla, Gus J., St. Louis
Furlow, Leonard T., St. Louis
Fury, Tex E., Kansas City
Fuson, Levi H., St. Joseph
Fuson, William A., Trenton

G

Gaebe, Harold C., Desloge
Gaffney, Caldwell J., St. Louis
Gafney, George T., St. Louis
Gagliardo, Joseph, St. Louis
Gaines, Quentin M., Kirkwood
Gainey, Harold L., Kansas City
Galbol, Harley, Excelsior Springs
Gale, Joseph F., Chillicothe
Gale, Philip R., St. Louis
Galeota, William R., Columbia
Gall, Ira, Clayton
Gallagher, Lionel M., California
Gallagher, Neil I., St. Louis
Gandlmayr, Jack M., St. Louis
Ganley, William C., Kansas City
Gansloser, Maximilian W., St. Louis
Gansloser, Wilbert M., Clayton
Gantner, George E. Jr., St. Louis
Gantt, Ernest S. Jr., Mexico
Gantz, John A., Affton
Garcia, Charles L., Mexico
Gard, Raymond F., Independence
Gardner, Joseph W., Glasgow
Garfinkel, Bernard T., St. Louis
Garner, Lynn M., Jefferson City
Garrett, Glen H., Columbia
Garrison, Roy F., Kansas City
Garrison, T. W., Camdenton (Member Mid Missouri County Medical Society)
Gary, George, Marceline
Gaskins, Charles W., Fredericktown
Gaskins, John H., Kansas City
Gaston, Ralph E., St. Louis
Gauer, Robert J., Kansas City
Gaunt, Frank P., Webster Groves
Gaunt, William D., Columbia
Gay, Andrew J., St. Louis
Gay, Elizabeth K., St. Louis
Gay, George, Ironton
Gearhart, Merriam, Bethany
Gearhart, Wilbur H., St. Louis
Gedney, William B., Valley Park
Geha, Braham J., Kansas City
Geise, August W. Jr., Minneapolis, Minn. (Member St. Louis Medical Society)
Geisler, Gerald F., St. Louis
Gempel, Paul A., Kansas City
Gentry, Enoch N. Jr., Kansas City
Gentry, Marvin C., Ava
Gentry, Merritt L., Springfield
Gentsch, Kenneth W., St. Louis
German, Walter A. Jr., Springfield
Gernstetter, Sangwill L., Poplar Bluff
Gerst, Aloysius C., St. Louis
Getelson, Joseph, Kansas City
Gibbons, Edward H., St. Louis
Gibson, David M., Kansas City
Gibson, Helen F., St. Louis
Gibstine, Marvin H., St. Ann
Giddings, Frank C., Springfield
Giem, Ross N., Sullivan
Gier, Richard H., Grandview
Gieselman, Ralph V., St. Louis
Giesler, Donald H., Osceola
Gildea, Edwin F., St. Louis
Gildea, Margaret C. L., St. Louis
Gilden, Jerome J., St. Louis
Gilfillan, Earl E., Memphis
Gilkey, Harry M., Kansas City
Gillespie, Roy, Branson
Gillespie, William J., St. Louis
Gilliland, Oliver S., Kansas City
Gillmor, Charles S., Kansas City
Gilpin, Doris C., St. Louis
Ginardi, Donald E., Kansas City
Ginsberg, Norman A., Kansas City
Gish, Rutledge, Fulton
Gissy, Charles J., St. Louis
Gist, William W., Kansas City
Gitt, Joseph J., St. Louis
Gladney, John H., St. Louis
Glascock, Donald W., Palmyra
Glaser, Martin J., St. Louis
Glass, Robert L., St. Louis
Glass, William J. Jr., Monett
Glassberg, Bertrand Y., St. Louis
Glasscock, Ernest L., Kansas City
Glenn, Elmer E., Forsyth
Glenn, Robert R., Springfield
Glennon, William P., St. Louis
Glick, Harry N., St. Louis
Glover, Kenneth, Mount Vernon
Gnade, Albert J., St. Louis
Goebel, Joan M., St. Louis
Goell, Robert S., St. Louis
Goettman, William I., Eglin AFB, Fla. (Member St. Louis Medical Society)
Goldberg, Isadore E., Braymer
Goldenberg, Sidney, St. Louis
Goldenson, Max J., St. Louis
Goldfarb, Alvin, Olivette
Goldman, Alfred, St. Louis
Goldman, Arnold M., St. Louis
Goldman, Hyman J., St. Louis
Goldman, Melvin L., St. Louis
Goldman, Stanley L., Kansas City
Goldring, Sidney, St. Louis
Goldsich, Edward, Kansas City
Goldstein, Marcy A., St. Louis
Gollub, Samuel W., St. Louis
Gomez, Cesar A. Jr., St. Louis
Gonser, Karl B., Sedalia
Gonzalez, M. Garza, Warrensburg
Goodman, J. N., Glendale
Goodman, LeRoy, Kansas City
Goodman, Nathaniel, St. Louis
Goodrich, Harold A., Webster Groves
Goodson, William H., Liberty
Goodson, William H. Jr., Kansas City
Goolsbee, Robert L., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Gordon, James S., Jefferson City
Gorelick, David F., Springfield
Gorham, Arwin E., St. Louis
Gorla, Wayne O., St. Louis
Gorrell, Ned B., Lee's Summit (Member West Central Missouri Medical Society)
Gose, Don F., Springfield
Gottsch, Joseph C., Kansas City
Gowen, Leo F., St. Louis
Grabau, Gene H., St. Louis
Grable, James D., Portageville
Grabske, Charles F., Independence
Grabske, Charles F. Jr., Independence
Graeser, Richard G., St. Louis
Graham, James W., Kansas City
Graham, Wallace H., Kansas City
Graneto, Joseph A., St. Louis
Grant, Claude S., St. Joseph
Grant, John M., St. Louis
Grant, Neville, St. Louis
Grant, Samuel B., St. Louis
Grauerholz, James W., Kansas City
Graul, Elmer G., St. Louis
Graul, Walter P., St. Louis
Graves, Arthur J., Mount Vernon
Graves, F. Burton, Joplin
Gray, Walter C., St. Louis
Greaney, John F., St. Louis
Greaves, Eli A., Kansas City
Grebel, Clement B., St. Louis
Greditzer, Arthur S., St. Louis
Green, D. M., St. Louis
Green, John R., Independence
Green, John R., Independence
Green, Manuel E., St. Louis
Green, Stanley L., Independence
Green, William R., St. Louis
Greenberg, Charles, Los Angeles, Calif. (Member Buchanan County Medical Society)
Greene, Harry L., Hannibal
Greene, W. Wallace, Kansas City
Greenman, Marshall B., Clayton
Gregory, Ralph W., Kansas City
Gresick, Robert J., St. Louis
Griege, Charles W., Florissant
Griffin, Mary E. P., Buffalo
Griffin, Olin A. Jr., Buffalo
Griffith, John A. Jr., Kansas City
Griggs, James Y., St. Louis
Grim, Edward M., Kirksville
Grimes, Manning E., St. Joseph
Grindon, Joseph B., St. Louis
Griot, Albert J., St. Louis
Groce, George, Fulton
Grogan, Frank M., St. Louis
Gronau, Axel R., St. Louis
Grossman, Marvin, Fredericktown
Grove, Gulp W., Knobnoster
Growdon, John A., Kansas City
Grubb, Paul H., Joplin
Grueb, Paul M., St. Louis
Gruenfeld, Gerhard E., St. Louis
Grundmann, William H., St. Louis
Gubin, Alan S., Caruthersville
Guccione, Joseph B., St. Louis
Guffey, Don C., Kansas City
Guhleman, Henry V. Jr., Jefferson City
Guldner, Edmond, Lamar
Gulick, Charles R., St. Louis
Gullett. Charles C., Kansas City
Gum, William R., St. Louis
Gummels, Belmont B., St. Louis
Gundle, Sigmund, Kansas City
Gunn, Jack, Versailles
Gunn, Richard W., Kansas City
Gunn, Walter T., St. Louis
Gurnee, Landon H., Jefferson City
Guze, Samuel B., St. Louis
Gzell, Ronald, St. Louis

H

Hackett, Paul R., St. Louis
Hackmeyer, Rubin, St. Louis
Haddock, James N., Webster Groves
Haffner, Heinz, St. Louis
Hagan, Daniel J., St. Louis
Hagebusch, Omer E., St. Louis
Hagemann, Paul O., St. Louis
Haggen, Margaret E., Kansas City
Hahn, Andrew L., Springfield
Haight, John M., Kansas City
Haith, Walter F., Kansas City
Hale, Tyre H., St. Louis
Hall, Andy Jr., St. Louis
Hall, David G., Columbia
Hall, David W., Springfield
Hall, Durward G., Springfield
Hall, Eugene W., Ferguson
Hall, Frank W., Cape Girardeau
Hall, Lee A., Clayton
Hall, Marvin F., Joplin
Hall, Preston C., St. Louis
Hall, Ralph R., Kansas City
Hall, Robert A., St. Louis
Hall, Thomas B., Kansas City
Hall, William K., St. Louis
Halperin, Phillip H., Kansas City
Halpern, Lawrence K., St. Louis
Hamel, Herbert A., Kansas City
Hamill, Robert W., Kansas City
Hamilton, Caldwell K., Clayton
Hamilton, Eugene G., Clayton
Hamilton, Eugene H., Joplin

Hamilton, William P., Aurora
Hamlin, Wyeth, Hannibal
Hammes, Romar E., St. Charles
Hammler, Christiana V., St. James
Hammond, John J., St. Louis
Hampton, Henry E., St. Louis
Hampton, Oscar P. Jr., St. Louis
Hampton, Stanley F., St. Louis
Hamtil, Edward W., St. Louis
Hanan, Ernest B., Springfield
Handler, Eric, St. Joseph
Handler, Fred P., Jefferson City
Hanes, Lee D., Kansas City
Hanes, Robert L., Grandview
Hankin, Norman M., St. Louis
Hanlon, C. Rollins, St. Louis
Hanlon, Russell C., Columbia
Hanna, Richard E., St. Louis
Hansbrough, Eugene T., Poplar Bluff
Hansel, French K., St. Louis
Hansen, Arthur L., Butler
Hanser, S. Albert, St. Louis
Hanser, Theodore H., St. Louis
Hanss, Armand W., Springfield
Hardacre, Ruth A., Kansas City
Hardesty, Joel W., Hannibal
Hardwicke, Henry M., Jefferson City
Hardy, Guerdan, Clayton
Hardy, John W., Kansas City
Hardy, Joseph A. Jr., St. Louis
Harell, Alex, St. Louis
Harford, Carl G., St. Louis
Harkins, William B., St. Louis
Harkness, Harry, Warrensburg
Harkness, Thomas T., Columbia
Harland, Robert E., Ironton
Harless, Morris S., Kansas City
Harmann, Martin F., St. Louis
Harms, Florian L., Salisbury
Harned, Bert W., Kansas City
Harner, Casper G., St. Joseph
Harper, Fleming B., St. Louis
Harrell, Henry J., Morrisville
Harrington, William J., St. Louis
Harris, Boyd L., San Diego, Calif.
(Member Jackson County Medical Society)
Harris, Charles W., St. Louis
Harris, Hinman A., University City
Harris, Solon P., St. Louis
Harrison, Lee B., St. Louis
Harrison, Stanley L., St. Louis
Hart, L. Wayne, Kansas City
Hart, Martin M., Salem
Hartin, Hugh R., St. Louis
Hartman, Paul T., St. Louis
Hartmann, Alexis F., St. Louis
Hartnett, Leo J., Clayton
Hartstein, Jack, University City
Hartwell, Basil O., Drexel
Hartwig, Frederick H., Kansas City
Hartwig, John A., St. Louis
Harvey, Harold D., Springfield
Harwell, J. Lester, St. Louis
(Member Butler-Wayne-Ripley County Medical Society)
Hasek, James A., Cabool
Hasenmueller, James J., St. Louis
Hash, Emalyn H., Kansas City
Hashinger, Edward H., La Jolla, Calif.
(Member Jackson County Medical Society)
Haskell, Ralph E., Norborne
Hasselblad, Oliver W., New York, N. Y.
(Member North Central Counties Medical Society)
Hassett, Henry A., St. Louis
Hasson, Jack, St. Louis
Hasson, Robert, Moberly
Hata, Daikichi, Boonville
Hatfalvi, Bela I., St. Louis
Hauptmann, William L., St. Louis
Hausheer, Herman J., Independence
Haw, Marvin T. Jr., Bonne Terre
Hawk, Bray O., St. Louis
Hawker, William D., St. Louis
Hawkins, George L. Jr., St. Louis
Hawkins, Lee W., Chesterfield
Hayden, Loyola F., St. Louis
Hayek, Wesley E., Jennings
Hayes, Lawrence L., Kansas City
Hayes, Paul W., St. Joseph
Haynes, James W., St. Louis
Haynes, Lee, Kansas City
Haynes, Pugh Jr., St. Louis
Haynes, Robert C., Marshall
Haynes, Solon E., Kansas City
Hazen, Robert M., Kansas City
H'Doubler, Francis T. Jr., Springfield
H'Doubler, Peter B., Springfield
Headrick, John A., St. Louis
Hecker, Joseph E., Jackson
Heeb, Max A., Sikeston
Heideman, Alvah G., St. Louis
Heideman, Milo L., St. Louis
Heidenreich, Harry L., St. Louis
Heifetz, Carl J., St. Louis
Hein, Paul A. Jr., St. Louis
Heinbecker, Peter, St. Louis
Helbing, Edward J., St. Louis
Heller, B. Marcus, Kansas City
Hellerstein, Stanley, Kansas City
Hellweg, Charles E., Mount Vernon
Hellweg, Raymond W., St. Louis
Helm, James O., New Florence
Helman, Richard G., Kansas City
Hemenway, William G., Columbia
Henderlite, John W., St. Louis
Hendin, Aaron, Olivette
Hendren, Glenn W., Liberty
Hengen, Henry E., Bridgeton
Henke, Charles F., St. Louis
Hennelly, John J., St. Louis
Henrickson, Hardin O., Poplar Bluff
Henry, Clarke L., Kansas City
Henry, Schubert D., Kansas City
Henschel, Eugene V., St. Louis
Hensley, Daniel R., Lilbourn
Herbert, Charles T., Cape Girardeau
Herman, Allen I., St. Joseph
Herman, Morris, St. Louis
Herrick, Harold C., LaGrange
(Member St. Louis Medical Society)
Herrman, George V., Kansas City
Hershey, Falls B., University City
Hertel, Albert L., St. Louis
Hertel, Ronald C., St. Louis
Hetlage, Louis P., Troy
Heusler, Anton F., St. Louis
Heutel, Lee B., Union
Heyer, Oscar C., St. Louis
Hibbard, Blaine Z., Kansas City
Hickerson, William H., Independence
Hickey, James L., St. Louis
Hickey, Robert F., St. Louis
Higgins, John W., St. Louis
Higgins, Robert S., Kansas City
Hilbert, Paul H., St. Louis
Hildreth, H. Rommel, St. Louis
Hill, Jack H., Kansas City
Hill, James E., Fulton
Hill, Jesse N., Independence
Hilton, Paul E., Kirksville
Hines, Arthur A., Florissant
Hines, Kenneth K., Orlando, Fla.
(Member St. Louis Medical Society)
Hink, Frederick W., Independence
Hirsch, Albert, Vandalia
(Member Montgomery County Medical Society)
Hirsch, Joe E., Kansas City
Hoadley, William D., Kansas City
Hobart, Carl A., St. Louis
Hobbs, Alonzo G., St. Louis
Hobbs, Earl B., Smithville
Hobbs, George H., Mount Vernon
Hobbs, John E., St. Louis
Hoctor, Emmett F., Farmington
Hodge, Robert H., N. Kansas City
Hodges, Fred J. III, St. Louis
Hodgson, Frank H., Kansas City
Hoelscher, Harold F., Warrenton
Hoeper, Samuel D., Grandview
Hoffman, Jacob S., Kansas City
Hoffman, Augustin D., St. Louis
Hoffmann, R. Lee, Kansas City
Hoffmann, Ronald E., St. Louis
Hofsommer, Armin C., Webster Groves
Hofstatter, Leopold, St. Louis
Hofstatter, Lilli, St. Louis
Hogan, Daniel F., Port Isabel, Tex.
(Member Jackson County Medical Society)
Hogan, John R., St. Louis
Hogan, Patrick C., St. Louis
Hogancamp, Charles E., St. Louis
Hogancamp, Glenn E., Ballwin
Hogeboom, George W., Springfield
Hogg, Garrett S. Jr., Lancaster, Tex.
(Member South Central Counties Medical Society)
Hogue, Frank S., Kansas City
Holbrook, Charles K., St. Louis
Holcomb, John K., Cape Girardeau
Holder, Thomas M., Kansas City
Holley, Donald B., Camdenton
(Member Mid Missouri County Medical Society)
Hollingsworth, Ray S., Clinton
Hollis, Richard W., Springfield
Hollo, Vencel W., St. Louis
Hollweg, Kenneth C., Kansas City
Holmes, Daniel E., Springfield
Holmes, David R., Springfield
Holscher, Edward C., St. Louis
Holt, Earl P. Jr., St. Louis
Holt, Waldo S., Kansas City
Holton, Edward B., Independence
Holtz, Alan S., St. Louis
Holtzman, Samuel, Joplin
Homan, Joseph S., St. Louis
Hook, Waller G., Kansas City
Hoover, H. Lee Jr., Springfield
Hope, James L., Lebanon
Hopkins, Florian G., Gideon
Hopkins, Thomas J., Sedalia
Hopkins, T. Spencer, Sedalia
Hornback, Edward R., Joplin
Horner, Glennon A., Marceline
Horner, John L., St. Louis
Hornstra, Robijn K., Kansas City
Horst, Otto C., Springfield
Horton, James D., Springfield
Horwitz, Irwin B., St. Louis
Hosto, Leland E., St. Louis
Houck, Russell M., Kecoughtan, Va.
(Member Clay County Medical Society)
Houston, Vincent T., St. Louis
Howden, Thomas L., St. Joseph
Howe, Albert L., St. Louis
Howe, Louis F., St. Louis
Howell, B. D., Brookfield
Hoxworth, Gerald M., Cape Girardeau
Hrdlicka, Victor E., St. Louis
Huber, Erwin T., St. Louis
Huber, Lasley E., Moberly
Huck, Frank F., Fenton
Huck, Richard F., St. Louis
Huckstep, Robert A., Farmington
Huey, Kenneth H., Tempe, Ariz.
(Member St. Louis Medical Society)
Huggins, Albert M., St. Louis
Hughes, Gerald E., Kansas City
Hughes, Judson M., St. Joseph
Hughes, Robert G., St. Louis
Hughes, Shelby B., Clinton
Hulbert, Bernard, St. Louis
Hummel, Anton J., St. Louis
Humphrey, George E., St. Louis
Humphrey, James, Mound City
Humphreys, Edward T., Boonville
Hungate, Carroll P., Kansas City
Hunleth, Frank E., St. Louis
Hunt, Claude J., Kansas City
Hunt, John W. Jr., Leadwood
Hunt, Lloyd H., Salem
Hunt, William J., St. Joseph
Hunter, James R., Webster Groves
Hunter, Martin P., Kansas City
Hunzicker, Warren J., Kansas City
Hurst, Ben B., Lebanon
Hurst, Wilfred W., Joplin
Hurwitt, Frank, Kansas City
Husted, George W., Parma
Hutchinson, James H. Jr., St. Louis
Hutto, A. Herman, St. Louis
Hyde, Lawrence L., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Hyman, Anna, St. Louis
Hyndman, Charles E., St. Louis

I

Ide, Lucien W., St. Joseph
Imes, Clifford H., Lynwood, Calif.
(Member Ozarks Medical Society)
Imes, Elvin D., Maryville
Ingham, Walton C., Kansas City
Inkley, John J., St. Louis
Irick, Carl C., Webster Groves
Irvin, William M., St. Louis
Irwig, Fred, Kansas City
Isbell, Charles H., Carthage
Isom, Waldo B., Knox City
Israel, Milton R., St. Louis
Ittner, George W. Jr., St. Louis
Ivy, Henry B., Springfield
Izmarlian, Grant, Webster Groves

J

Jabczenski, Felix F., Ft. Huachuca, Ariz.
(Member St. Louis Medical Society)
Jackson, Edward K., Clarksville
Jackson, Elmer C., Fulton
Jackson, Haywood R., Kansas City, Kan.
(Member Jackson County Medical Society)
Jackson, Robert L., Columbia

Jackson, Vernon B., Fulton
Jackson, William R., Kansas City
Jackson, William R., Maryville
Jacob, Karl A. Jr., St. Louis
Jacob, Walter P., Kansas City
Jacobs, Charles C., St. Louis
Jacobs, Frederick A., St. Louis
Jacobs, Morton, Kansas City
Jacobs, Walter H., Kansas City
Jacobsohn, Warren Z., St. Louis
Jaeger, Joseph N., Jackson
Jaime, Nicholas, Kansas City
James, Norman A., St. Louis
James, Otis E. Jr., Kansas City
James, William M., St. Louis
Jameson, James E., Springfield
Janney, James G. Jr., Clayton
Jansen, Robert, Kansas City
Jarvis, Garth L., St. Louis
Jarvis, James A., Kansas City
Jaudon, Joseph C., Clayton
Javaux, Everett J., St. Louis
Jean, J. Ted, St. Louis
Jeans, Virgil, Joplin
Jefferies, Robert C., Kansas City
Jenab, Morteza, Kansas City
Jenkins, Paul A., Lebanon
Jennett, James H., Kansas City
Jensen, Joshua E., St. Louis
Jick, Sidney, St. Louis
Joffe, Irwin, Paragould, Ark. (Member Dunklin County Medical Society)
Johns, Leo E., Kansas City
Johnson, C. Laurence, Kansas City
Johnson, Charles R., California
Johnson, Charles S., Warrensburg
Johnson, David S., St. Louis
Johnson, Earl W., Cape Girardeau
Johnson, Frank C., Doniphan
Johnson, George A., Springfield
Johnson, George L., Ft. Benning, Ga. (Member Greene County Medical Society)
Johnson, Grover C., Marthasville
Johnson, James S., Kansas City
Johnson, Joseph E., Kansas City
Johnson, Mitchell D., Ferguson
Johnson, Morris B., Grandview
Johnson, Richard E., Columbia
Johnson, Roy, Ferguson
Johnson, Thomas M., Kansas City
Johnson, Warford B., Springfield
Johnson, William F., Springfield
Johnston, Joseph L., Springfield
Johnstone, John Jr., Kirkwood
Johnstone, Paul N., Kansas City
Jolly, Benjamin N., Mexico
Jolly, William H., Mexico
Jonas, Harry S. Jr., Independence
Jones, Andrew B., St. Louis
Jones, Augustin, St. Louis
Jones, Charles E., Liberty
Jones, Dorothy J., Clayton
Jones, Edna M., Clinton
Jones, Edward S., Harrisonville
Jones, George H., Kansas City
Jones, Grey, St. Louis
Jones, James B., St. Louis
Jones, John B., Kirksville
Jones, Keith D., Warrensburg
Jones, Otey S., St. Louis
Jones, Ralph H., Santa Fe, N. M. (Member Saline County Medical Society)
Jones, Richard A., St. Louis
Jones, Theodore R., Kansas City
Jones, Victor, Brentwood
Jones, Vincent L., St. Louis
Jordan, Edward J., St. Louis
Jordan, Walter R., St. Louis
Jorel, Louis E., Springfield
Jorstad, Louis H., St. Louis
Joseph, Harold J., Ladue
Joslyn, Harold L., St. Louis
Jost, Charles A., St. Louis
Jotte, Richard F., St. Ann
Juden, Alexander G., Cape Girardeau
Judge, Walter T., Crystal City
Judy, Joseph D., Ferguson
Jung, J. Marshall, Illmo
Justus, John B., Kansas City

K

Kahn, Lawrence, St. Louis
Kallenbach, Glen P., Mexico
Kamakas, Nicholas, Ferguson
Kaminsky, Watson W., St. Louis
Kamm, William A., St. Louis
Kanagow, Hajime H., Jefferson City
Kane, Clyde E., St. Louis
Kantor, Julius M., Kansas City
Kantor, Samuel, Kansas City
Kaplan, Albert, St. Louis
Kappesser, Netajean B., St. Louis
Kappesser, Roland C., St. Louis
Karandjeff, Apostle D., St. Louis
Kararek, Joseph, Kansas City
Kardesch, Milton, St. Louis
Karl, Michael M., St. Louis
Karraker, Alvan G., Farmington
Karsh, Robert S., St. Louis
Kartus, Irving, Kansas City
Kaskie, Clifford R., Clayton
Kasten, Melvin C., Cape Girardeau
Katz, Milton, Kansas City
Kauffman, Ruth, Versailles
Kaul, Philip G., Kansas City
Kayes, Jack, St. Louis
Keairnes, Harold W., Independence
Kealhofer, George C., Kansas City
Keats, Theodore E., Columbia
Keeble, Charles B., St. Louis
Keeler, James E., Kansas City
Keeney, John J., St. Louis
Keffler, Karl L., St. Louis
Kehoe, John J., St. Louis
Keim, John H., Cape Girardeau
Keller, Joseph M., St. Louis
Keller, Louis, St. Louis
Keller, Maurice J., St. Louis
Keller, Robert M., Wentzville
Kellett, John G., Webster Groves
Kelley, Gilbert B., Savannah
Kelley, Isaac D. Jr., St. Louis
Kelley, Ralph R., Savannah
Kelley, Robert W., St. Louis
Kelling, Douglas G., Waverly
Kelling, Jordan, Waverly
Kelly, Eugene H., Ironton (Member Jackson County Medical Society)
Kelly, Marshall W., Jefferson City
Kelly, R. Emmet, St. Louis
Kelsey, Kenneth L., Aurora
Keltner, Raymond O., Kansas City
Keltner, Raymond M. Jr., Houston, Tex. (Member St. Louis Medical Society)
Kendall, Charles A., Independence
Kendig, John H., St. Louis
Kendis, Joseph B., St. Louis
Kennard, George K., Kansas City
Kennedy, William J., Ann Arbor, Mich. (Member St. Louis Medical Society)
Kenney, Roy E., Neosho
Kent, Bela K., Kansas City
Kent, Clifford F., Kansas City
Keown, Kenneth K., Columbia
Kepler, Earl C., Fulton
Kerr, David N., St. Louis
Kerr, Frank T., Monett
Kessler, Joseph J., St. Louis
Kessler, Sheldon, Florissant
Ketcham, William M., Kansas City
Kettelkamp, George D., St. Louis
Ketterman, Grace H., Kansas City
Ketterman, Herbert L., Kansas City
Kettner, Edward G., Kansas City
Key, James S., Springfield
Keyes, Edward L., St. Louis
Kibbe, Edgar A., California
Kieber, Robert W., St. Joseph
Kieffer, Roland S., St. Louis
Kieffer, Victor B. Jr., St. Louis
Kiehl, Katharine, Joplin
Kienberger, Paul A., Independence
Kiene, Richard H., Kansas City
Kienzle, Edward C., St. Louis
Kilker, Clarence H., St. Louis
Kilker, Donald E., St. Louis
Kilo, Charles, St. Louis
Kimball, I. W., Parkville
Kimball, Merritt H., Kansas City
Kimberlin, Herbert C., Trenton
Kimelman, Nathan, St. Louis
Kimes, Ira D., Cameron
Kinder, James A., Cape Girardeau
King, Elbert R., Boise, Idaho (Member West Central Counties Medical Society)
King, Eustace E. III, St. Louis
King, Francis C., Kirkwood
King, J. Tenbrook, Kansas City
King, James P., St. Louis
King, John V., Webster Groves
King, Morris K., St. Louis
King, Phillip E., Excelsior Springs
King, Richard H., Clinton
King, Walter R., Kansas City
Kingsbury, Helen, Shawnee Mission, Kan. (Member Jackson County Medical Society)
Kingsland, Robert C., Clayton
Kinsella, Edward D., St. Louis
Kinsella, Peter W., St. Louis
Kinsella, Ralph A., St. Louis
Kinsella, Ralph A. Jr., St. Louis
Kipnis, David M., St. Louis
Kirk, Charlie W., Hopkins
Kirschman, Robert E., Joplin
Kirstein, Melvin B., St. Louis
Kirtz, Louis P., Clayton
Kiser, David M., Kansas City
Kissane, John M., St. Louis
Kister, George E., St. Charles
Kistner, William F., St. Louis
Kitchen, William M., Kansas City
Klaff, Daniel D., St. Louis
Klebba, Larry B., Jefferson City
Klein, Andrew G., St. Louis
Klein, Arnold G., St. Louis
Klein, Bert H., St. Louis
Klein, Edward H., Kansas City
Kleinschmidt, Clinton, St. Louis
Klenk, Charles L., St. Louis
Klepinger, Dayton P., Neosho
Kline, Edmund W., St. Joseph
Klinge, Frederick W., St. Louis
Klingner, George M., Springfield
Klippel, Allen P., Clayton
Klippel, Bernhardt W., St. Louis
Kloecker, Herman J., St. Louis
Klym, Nicholas, St. Louis
Knabb, Arthur D., Springfield
Knabb, Harris, Springfield
Knabb, Henry F. Jr., Springfield
Knabb, Kenneth E., Springfield
Kneal, E. Ellsworth, St. Louis
Kneibert, Fred L., Poplar Bluff
Knepper, Paul A., St. Joseph
Knese, Luke A., St. Louis
Knight, Franklin P., St. Louis
Knight, John S., Kansas City
Knight, Lyle B., Lee's Summit
Knight, William A, Jr., St. Louis
Knipschild, B. F., Marshall
Knoch, H. Kermit, Kansas City
Knock, Henry L., Kirkwood
Knoke, Frederick W. Jr., St. Joseph
Knowlton, Norman P. Jr., St. Louis
Knox, Earl R., Kansas City
Koch, Robert E., Clayton
Koehler, Charles A., Kansas City
Koehler, John W., Joplin
Koenig, George H., St. Petersburg, Fla. (Member St. Louis Medical Society)
Koenig, Karl F., St. Louis
Koenig, Marvin I., St. Louis
Koerner, Kenneth A., Clayton
Koessel, Arthur W., St. Louis
Kohler, Eugene J., St. Louis
Kohler, Louis H., St. Louis
Kohn, Cecil M., Kansas City
Kolze, Vernon W., Springfield
Komanetsky, William M., St. Louis
Konikov, Nadya, St. Louis
Konzelmann, John A., St. Louis
Koon, Ben H., Bolivar
Kopp, Jules H., St. Louis
Kopp, Leonard J., St. Louis
Koppenbrink, Walter E. Jr., Higginsville
Korn, Robert L., Clayton
Korth, William M., Kansas City
Kotner, Lawrence M., St. Louis
Koutsoumpas, William V., St. Louis
Kowert, Edward H., St. Louis
Kozal, Francis L., Crystal City
Kozlowski, Albert E., St. Louis
Kraft, Edward O., Brentwood
Kraft, Jacob, Kansas City
Kramer, Fred, St. Louis
Kramolowsky, Helmuth H., St. Louis
Kraner, Justin F., St. Louis
Kranson, Seymour J., Independence
Kratz, Frederick W., Liberty
Kratz, Paul E., Cape Girardeau
Krause, G. Lynn Jr., M.D., St. Louis
Krebs, Joseph M., Clayton
Krebs, Otto S., St. Louis
Krieger, John L., St. Louis
Krojanker, Rolf, St. Louis
Kromer, Charles, St. Louis
Kubin, Milford T., Columbia
Kubitschek, Paul F., St. Louis
Kuebrich, Thomas C., Ferguson
Kuenzi, Donald E., Kansas City
Kuhlman, Robert E., St. Louis
Kuhn, John R, Jr., Joplin
Kuhn, William F. III, Kansas City
Kulowksi, Jacob, St. Joseph
Kurth, Robert K., St. Louis

Kurz, Rudolph F., St. Louis
Kutryb, Walter J., St. Louis
Kuttner, Marianne, St. Louis
Kyger, Fred B., Kansas City
Kyger, John E., Kansas City
Kyner, Thomas A., Kansas City

L

Lachance, Leopold, Centralia
Lacy, N. Eugene, Kansas City
Ladd, Charles B., St. Louis
Ladenson, Roland P., Columbia
LaDriere, Raymond J., St. Louis
Laffoon, France L., Vista, Calif.
(Member Jackson County Medical Society)
LaHue, Lilburn D., Butler
Lally, James J., Kansas City
Lam, Robert L., St. Louis
Lamar, Robert F., Kansas City
Lamb, Wanda, St. Louis
Lambert, Marian, Kansas City
Lambie, Rodger W., Overland Park, Kan.
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Lamke, Charles M., Ocean Springs, Miss.
(Member Boone County Medical Society)
Lamy, John E., Sedalia
Landau, Daniel B., Hannibal
Landau, William M., St. Louis
Landis, George K., Kansas City
Landor, John H., Columbia
Lane, Clinton W., St. Louis
Laney, Roland L., Carlsbad, Calif.
(Member Jasper County Medical Society)
Lang, John J., New Orleans, La.
(Member St. Louis Medical Society)
Langan, William J. Jr., St. Louis
Lange, Adolph C., St. Louis
Langeluttig, Harry V., Mount Vernon
Langhus, Melvin O., N. Kansas City
Langston, Walter R., Springfield
Lanier, Earl W., St. Louis
Lankford, Harold D., Mexico
Lanning, Richard C., St. Geneveve
Lanning, Robert J., Hannibal
Lansche, Elmer A., St. Louis
Lansche, W. Edward, St. Louis
Lapi, Angelo, Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Lapp, Harry C., Kansas City
Larimore, Joseph W., St. Louis
Larkin, Rosemary R., St. Louis
Larsen, Kenneth V., St. Louis
Larson, Paul U., St. Louis
LaSalle, Michael W., Kansas City
(Member Grand River County Medical Society)
Lassar, Gilbert N., St. Louis
Latham, Kenyon S., California
Latham, Raymond W., Kansas City
Latimer, Walter N. A., Hannibal
Lattinville, Henry E., St. Louis
Lauber, Joseph J., Creve Coeur
Lauer, Daniel J., Kansas City
Laurenzana, Frank P., Kansas City
Lawless, Charles L., Marshall
Lawrence, George H., St. Louis
Lawrence, John R., Marshall
Lawton, John T., St. Louis
Lawton, Lawrence M., St. Louis
Lawton, Thomas P., St. Louis
Layton, Ira C., Kansas City
Leahy, John G., St. Louis
LeBlanc, Leo J., St. Louis
L'Ecuyer, Jerome L., St. Louis
Lederer, Charles M., Warrensburg
Lederman, Joseph, St. Louis
Lee, Carleton H., St. Joseph
Lee, George C., Kansas City
Lee, Gerald B., Columbia
(Member St. Louis Medical Society)
Lee, Henry A., Kansas City
Leech, Charles A., Columbia
Leech, Maurice P., Fayette
Legner, Stanley G., Perryville
Lehner, Richard L., Kansas City
Leider, Robert J., St. Louis
Leidinger, Karl J., Republic
Leifer, William W., Kansas City
Leightner, William, St. Louis
Leitch, Cecil G., Blue Springs
Leitz, Frank B., Kansas City
Lembeck, Joseph A., St. Louis
Lemmon, George B., Springfield
Lemmon, G. Bruce Jr., Springfield
Lenobel, Milton I., Clayton
Lentz, Clark H., Kansas City
Lentz, Harold C., Kansas City
(Member Ozarks Medical Society)
Leo, William A., Kansas City
Leonhardt, Erwin M., St. Louis
Lerman, George S., St. Louis
Lerner, Abe F., St. Louis
Lerwick, Everett R., St. Louis
Leslie, Charles H., Kirkwood
Leslie, James F., Springfield
Leslie, J. Paul, Jefferson City
Leslie, James T., Louisville, Ky.
(Member Cole County Medical Society)
Leslie, James T. Jr., Jefferson City
Levey, Harry B., Kansas City
Levey, Simon A., Overland
Levin, Marvin E., University City
Levin, Sidney S., St. Louis
Levitt, Joseph, St. Louis
Levy, Irwin, St. Louis
Lewellen, Charles H., Louisiana
Lewin, Wilbur H., St. Louis
Lewis, James E. Jr., St. Louis
Lewis, Ray B., Columbia
Lewis, Revis C., Kansas City
Leydig, Stanley M., St. Louis
Liang, Howard S., St. Louis
Lichtor, Alexander, Kansas City
Lichtor, Joseph M., Kansas City
Lichty, Charles A., Shelbina
Lieb, Francis X., St. Louis
Lieb, Otto, St. Louis
Lieberman, B. Albert Jr., Kansas City
Lieberman, David M., St. Louis
Liebmann, Fritz M., St. Louis
Liese, Grover B., St. Louis
Lilly, Terry E., Kansas City
Lilly, Terry E. Jr., Kansas City
Limbaugh, Walter R., Hayti
Lindeman, Carl H., St. Louis
Link, Alexander J., St. Louis
Link, Vance E., Independence
Linville, Howard E., Kansas City
Lipschitz, Ervin, St. Louis
Lipsitz, Ellis S., St. Louis
Lischer, Carl E., St. Louis
Lissack, Edmund, Concordia
Liston, Odus, Oakgrove
Litsey, James J. II, Alton, Ill.
(Member St. Louis Medical Society)
Littauer, David, St. Louis
Little, Monroe H., St. Louis
Littmann, Lewis E., St. Louis
Litton, Lyle D., Springfield
Litzow, Louis T., St. Louis
Lloyd, Ivan E., Independence
Lockhart, Charles E., Springfield
Lodwick, Gwilym S., Columbia
Loeb, Virgil Jr., St. Louis
Loeffel, Ellen S., St. Louis
Logan, James A., Warsaw
Logue, John T., Columbia
Lohr, Curtis H., St. Louis
Lohr, Robert W., Ferguson
Lohrentz, Lois H., Kansas City
Loitman, Bernard, St. Louis
Londe, Sol, St. Louis
London, Stanley L., St. Louis
Lonergan, Warren M., St. Louis
Long, David S., Harrisonville
Long, Forrest C., Savannah
Long, Frank B., St. Louis
Long, Frank B., Sedalia
Long, R. Stacy, Kansas City
Longenecker, Joe L., Joplin
Lonsway, Maurice J., St. Louis
Lonsway, Maurice J. Jr., St. Louis
LoPiccolo, Vincent J., St. Louis
Lord, Richard E., St. Louis
Lorenc, Ernest, Springfield
Lottes, James O., St. Louis
Loughead, John R., Poplar Bluff
Love, Drury M., Kansas City
(Member Clay County Medical Society)
Love, Walter S., Nevada
Loving, B. Rush, Ballwin
Lovinggood, Thomas A., Cape Girardeau
Lowe, Alvin L., Sedalia
Lowe, Horace A. Jr., Springfield
Lowell, Paul, Kansas City
Lowenstein, Paul S., St. Louis
Lowney, John F., Columbia
Lowrey, Ford J., Kansas City
Loyd, Earl L., Jefferson City
Lucas, Fred V., Columbia
Lucido, Joseph L., St. Louis
Lucke, Eugene M., Hannibal
Luckenbill, Paul T., Plattsburg
Luedde, Fullerton W., St. Louis
Luedde, Philip S., St. Louis
Luehrs, Robert O., St. Louis
Lugo, Samuel, St. Louis
Luh, Andrew, St. Louis
Luke, Herbert K., St. Louis
Lund, Herluf G., St. Louis
Lund, Robert H., Clayton
Lundgren, Fred H. Jr., Kansas City
Lurie, Harold H., Springfield
Lusk, Charles A. Jr., Butler
Luten, Drew W., St. Louis
Luter, Carter W., Butler
Lutkewitte, Joseph F., Ste. Genevieve
Lutz, Martin H., St. Louis
Lyddon, Harold R. Jr., Kansas City
Lyle, Ray M., Kansas City
Lyle, Robert R., Versailles
Lyman, Edward H., St. Louis
Lynxwiler, Chester P., St. Louis
Lyss, Carl, St. Louis
Lytle, William R., Rolla
Lyttle, Garnet C., St. Louis
Lytton, George J., Kansas City
Lytton, William B., St. Louis

M

McAdam, Charles R., St. Louis
McAfee, C. Alan, St. Louis
McAlester, Andrew W., Brownsville, Tex.
(Member Jackson County Medical Society)
McAlhany, Howard J., Springfield
McAlister, William H., St. Louis
McArtor, Thomas R., Browning
McBurney, Alexander A., Hanover, N. H.
(Member Saline County Medical Society)
McBurney, Charles A., Slater
McCall, Edwin L., St. Louis
McCalla, John P., Kansas City
McCallum, Andrew J. C., Aurora
McCann, John F., St. Louis
McCann, Louis P., Nevada
McCanse, Andrew, Kansas City
McCarroll, Henry R., St. Louis
McCarthy, Eugene F., St. Louis
McCarthy, John M., St. Louis
McCarthy, Thomas D., Ferguson
McCarthy, William F., Blue Springs
McCaughan, John M., St. Louis
McClanahan, Robert C., Kansas City
McCloskey, R. Bruce, Webster Groves
McClure, David N., Clayton
McClure, Thomas C., Fort Lauderdale, Fla.
(Member Semo County Medical Society)
McConchie, James E., Independence
McCool, James F. Jr., St. Louis
McCool, Stanley G., St. Louis
McCorkle, E. Lee, Marshall
McCormick, James E., Kansas City
McCoy, Frederick J., Kansas City
McCoy, Warren R., Caruthersville
McCracken, Samuel R., Excelsior Springs
McCraw, Doyle C., Bolivar
McCubbin, Clarence R., Kansas City
McCullough, Campbell C., Kansas City
McCuniff, William B., Kansas City
McDaniel, John R., St. Joseph
McDermott, Alfred E., Perryville
McDonald, Bruce P., Kansas City
McDonald, Eugene F., Jackson
McDonald, George H., St. Louis
McDonald, Victor G. Jr., Kansas City
McDonald, Wilbur P., St. Joseph
McDonnell, John F., Kansas City
McDonough, John, St. Louis
McDowell, Frank, St. Louis
McElroy, Glenn L., Columbia
McElvain, Robert C., Boca Raton, Fla.
(Member St. Louis Medical Society)
McFadden, Gene A., Waverly
McFadden, James F., St. Louis
McFadden, James F. Jr., St. Louis
McFarland, Morris D., Kansas City
McGannon, Paul T., Kansas City
McGinnis, Byron J., St. Louis
McGinnis, William F., St. Louis
McGinty, Charles P., Cape Girardeau
McGuire, Thomas H., Kansas City
McHaney, John W., Jefferson City
McIntire, Emery J., Carthage
McIntyre, John D., Kansas City
McKaskle, Clarence W., Caruthersville
McKee, Joseph W., Kansas City
McKee, Oliver A., Kirkwood
McKee, Wallace P., Kansas City
McKenna, David H., St. Louis
McKinstry, Karl V., DeSoto

McKnelly, William V., Jefferson City
McLain, B. M., Poplar Bluff
McLean, Royal C., Orange, Calif. (Member St. Louis County Medical Society)
McLelland, Richard I., Seattle, Wash. (Member St. Louis Medical Society)
McLeod, John, Kansas City
McMahon, Alphonse, St. Louis
McMahon, Bernard J., Clayton
McManamon, Thomas V., Florissant
McMillan, Thomas E., Kansas City
McMurray, Herbert C., Manchester
McNalley, Frank P., Clayton
McNalley, Michael, St. Louis
McNamara, John J., Richmond Heights
McNeel, Lee A. Jr., Greenfield
McNew, William T., Carthage
McPhee, William R., Kansas City
McPheeters, James W., Poplar Bluff
McPike, Lloyd H., Joplin
McSwiney, John G., St. Louis
McVay, James R., Kansas City
McVay, James R. Jr., Kansas City
Mabrey, John P., Plattsburg
Macauley, Bernard J., Poplar Bluff
MacBryde, Cyril M., St. Louis
MacDonald, Robert R. Jr., St. Louis
Macdonald, William C., St. Louis
Macdonnell, Carey R., Marshfield
Macdonnell, Thomas M., Marshfield
Machek, Otakar, St. Louis
MacInnis, Florence E., Kansas City
Mack, Mary L., Joplin
Mackenzie, James W., Columbia
Macko, Joseph R., St. Louis
Maclean, J. Alexander, Baldwin City, Kan. (Member Jackson County Medical Society)
MacNaughton, Ralph E., Kansas City
MacNaughton, Robert A., Leawood, Kan. (Member Jackson County Medical Society)
Macnish, James M., St. Louis
Macon, William L. Jr., St. Louis
Maddox, Albert R., Sedalia
Maddox, John D., Joplin
Maddux, William P., Springfield
Madison, Waite H., Kansas City (Member Saline County Medical Society)
Magaletta, George E., Cape Girardeau
Magee, Charles D., St. Louis
Magee, Robert L., El Dorado Springs
Magee, William E., St. Louis
Magidson, Joseph, St. Louis
Magill, Joseph S., Milan
Maginn, Richard L., St. Joseph
Magness, Guy N., St. Louis
Magness, William C., Branson
Mahe, George A., St. Louis
Maher, Robert W., Springfield
Maher, Thomas F., St. Louis
Mairs, Edgar J., Trenton
Maizus, Saul H., St. Louis
Malles, A. Conrad, St. Louis
Mandler, George, Chillicothe
Manganaro, Frank J., St. Louis
Mangels, Kenneth A., Independence
Mangelsdorf, Thomas K., St. Louis
Manion, Peter J., St. Louis
Mannis, Ben G., St. Louis
Mansur, Edward E., Stuart, Fla. (Member Cole County Medical Society)
Mantell, Harriet B., Kansas City
Manting, George, St. Louis
Maple, Francis M., Springfield
Marcus, Morris D., St. Louis
Margolis, Richard M., Florissant
Margulis, Alexander R., St. Louis
Marienfeld, Carl J., Columbia
Markel, Arthur D., Poplar Bluff
Marks, Mark M., Kansas City
Marmor, William A., St. Louis
Mars, Hartley F., Forsyth
Marsh, Alice, Pleasant Hill
Marshall, Alfred H., Charleston
Marshall, Cameron F., Kansas City
Marston, Warren G., S. Louis
Martel, Dominique, St. Louis
Martin, Andrew D., Sikeston
Martin, Forrest L., Nevada
Martin, Frederick W. Jr., St. Louis
Martin, J. Barlow, St. Louis
Martin, James M., St. Louis
Martin, John N., St. Joseph
Martin, Maynard W., Houston, Tex. (Member St. Louis Medical Society)
Martin, Wilfred E., Odessa
Martin, W. Joe, Louisiana
Martt, Jack M., Columbia
Martz, John C., Webster Groves
Masor, Nathan A., Butler
Massie, Edward, St. Louis
Masters, William H., St. Louis
Masucci, Joseph M., Kansas City
Mathewson, Hugh S., Kansas City
Matovich, Violet B., Columbia
Matteson, Frank B., Grant City
Matthews, John G., St. Louis
Matthews, John I., Jefferson City
Mattis, Robert D., Clayton
Maughs, Sidney B., St. Louis
Max, Paul F., St. Louis
Maxey, Hugh W., Jefferson City
Maxson, T. Reed, Warrensburg
Maxwell, Richard W., St. Louis
May, Albert L. Jr., Poplar Bluff
May, Benjamin F., St. Louis
May, James W., Kansas City
Mayer, John H. Jr., Kansas City
Mayer, Robert A., St. Louis
Mayer, William D., Columbia
Mayfield, James L., Crystal City
Mays, Frank G., Washington
Maze, Lawrence E., St. Louis
Mead, Samuel T., Slater
Meador, James R., Clayton
Meagher, Arthur J., St. Louis
Medler, Francis J., St. Louis
Mehan, Donald J., St. Louis
Mehan, George T., St. Louis
Meier, Francis X., Jefferson City
Meinberg, William H., St. Louis
Meiners, Paul N., St. Louis
Meiners, Theodore M., St. Louis
Meinershagen, Charles W., Jefferson City
Meisenbach, A. Edward, St. Louis
Melburn, Colleen M., St. Louis
Melgaard, S. Ross, Kansas City
Melick, William F., St. Louis
Meluney, Solomon E., St. Joseph
Menchetti, Don E., Springfield
Mendelsohn, Robert S., St. Louis
Mendelson, David F., St. Louis
Mendonsa, Elsa L., University City
Mendonsa, Lawrence E., St. Louis
Menne, Marvin G., Ironton
Merenda, Sam J., St. Louis
Meriwether, Don R., Kansas City
Merklin, Anton L., St. Louis
Merrims, Theodore, University City
Merritt, Burch A., St. Louis
Merz, Jean J., St. Louis
Mestres, Hugh M., St. Louis
Metz, Charles O., St. Louis
Meyer, Claude B., Nixa
Meyer, Curtis A., St. Louis
Meyer, Herman M., St. Louis
Meyer, James E., Manchester
Meyer, Oscar D., St. Louis
Meyer, Paul W., Kansas City
Meyerhardt, Milton H., St. Louis
Meyers, Harold L., Mission, Kan. (Member Jackson County Medical Society)
Meyers, John B., St. Louis
Meyers, Montague M., St. Louis
Mezera, Raymond A., St. Louis
Michael, Kenneth D., St. Louis
Michael, Vernon E., St. Louis
Michaelis, Charles E., Fredericktown
Michaelree, John F., St. Louis
Middleman, Isadore C., St. Louis
Middleton, John W., Louisiana
Mier, Thomas M., St. Louis
Milano, Angelo, St. Louis
Milder, Benjamin, St. Louis
Miles, George O., Kansas City
Miles, Paul W., St. Louis
Miller, Charles Jr., Kirkwood
Miller, Charles W., St. Louis
Miller, Clinton L., Lee's Summit
Miller, Clyde S., Waynesville
Miller, D. Herbert, Muskogee, Okla. (Member Chariton-Macon-Monroe-Randolph County Medical Society)
Miller, David, St. Louis
Miller, David V., Poplar Bluff
Miller, Gerald L., Kansas City
Miller, Harold W., Willow Springs
Miller, Howard S., Macon
Miller, James E., St. Louis
Miller, Leroy J., Columbia
Miller, Max I., Kansas City
Miller, Norman C., St. Louis
Miller, Oliver J., Cape Girardeau (Member Perry County Medical Society)
Miller, Wilson H., Kansas City
Millikin, Lester A., St. Louis
Milster, Clyde R., St. Louis
Miltenberger, Paul C., Kennett
Minnihan, Robert W., Affton
Minton, Robert S., St. Joseph
Mishkin, Marvin R., St. Louis
Missey, Wilburn C. Jr., St. Louis
Mitchell, Andrew D., Kansas City
Mitchell, Franklin L., Columbia
Mitchell, Robert H., Kansas City
Mitchell, Roy E., Salem
Mixson, William C., Kansas City
Modlin, John J., Columbia
Moen, Berwyn H., St. Joseph
Molden, Charles A., St. Louis
Monahan, Elmer P., Lenexa, Kan. (Member Jackson County Medical Society)
Monat, Seymour, St. Louis
Montani, Charles, St. Louis
Montello, Samuel A., Kansas City
Montes-de-Oca, Julio, St. Louis
Montgomery, Austin F., St. Louis
Montgomery, James G., Kansas City
Moody, Jackson C., Harrisonville
Mooney, Justin L., Kansas City
Mooney, Marcel L., Kansas City
Moore, Carl V., St. Louis
Moore, Dan B., St. Louis
Moore, Harry G., St. Louis
Moore, Harry G. Jr., St. Louis
Moore, Robert A., Kansas City
Moore, Sherwood, St. Louis
Moore, Walter L., Clayton
Moore, William E., Normandy
Moranville, Benedict A., Columbia
Morehead, William E., Malden
Morest, F. Stanley, Hollywood, Fla. (Member Jackson County Medical Society)
Morgan, David B., Kansas City
Morgan, Harry C., St. Louis
Morris, Clyde L., Caruthersville
Morris, Harvey E., St. Louis
Morris, Joseph H. Jr., Kansas City
Morris, Mary E., St. Louis
Morris, William R., Kansas City
Morrison Arlen, St. Louis
Morrison, George B., Nevada
Morrison, T. A., Aurora
Morse, Marvin, St. Joseph
Mortensen, Frede, St. Louis
Morton, Paul C., Springfield
Moseley, F. Thomas, Springfield
Moses, Robert A., St. Louis
Moss, Paul, Kansas City
Mosser, Robert S., Independence
Mothershead, John L., St. Joseph
Motzel, Albert J., St. Louis
Mountjoy, Grace S., St. Louis
Mowrey, William O., Jennings
Moyer, Carl A., St. Louis
Muckerman, Richard I. C., St. Louis
Mudd, James L., St. Louis
Mueller, Clarence E., St. Louis
Mueller, John J., St. Louis
Mueller, Joseph A., St. Louis
Mueller, Martin J., Kansas City
Mueller, Morris A., St. Louis
Mueller, Robert, St. Louis
Mueller, Robert J., St. Louis
Mueller, Wilbur K., St. Louis
Muench, Albert H., St. Joseph
Muench, Ludwig O., Washington
Muenster, Vincent P., St. Charles
Muether, Raymond O., St. Louis
Mullarky, Wilbur A., St. Louis
Mullen, Jack, Bonne Terre
Mullen, Leo M., Kansas City
Mulligan, Leo V., St. Louis
Mullinax, Orr, Nevada
Mullins, Bernard L., N. Kansas City
Mullins, John E., St. Louis
Multhauf, Cyril J., Mission, Kan. (Member Jackson County Medical Society)
Mundy, Homer F., St. Joseph
Mundy, William L., Kansas City
Munsch, Augustin P., St. Louis
Munsch, Girard A., St. Louis
Murawsky, William V., St. Louis
Murphy, Bernard L., Hannibal
Murphy, George E., St. Louis
Murphy, James P., St. Louis
Murphy, John C., St. Louis
Murphy, Paul, St. Louis
Murphy, Robert J., Kansas City
Muschany, Norman K., St. Louis
Musgrave, David E., Excelsior Springs
Musick, James D., Springfield
Mutshnick, Clara P., St. Louis
Myers, James M., Rolla
Myers, John S., Kansas City

Myers, Robert M., Kansas City
Myers, Wilson A., Kansas City

N

Naime, Mansour J., Kansas City
Nakada, James R., St. Louis
Napper, Marvin L., Springfield
Narahara, Hiromichi T., St. Louis
Naryka, Joseph J., St. Louis
Nash, Francis P., St. Louis
Nash, George W., Kansas City
Nash, Helen E., St. Louis
Nash, Homer E. Jr., St. Louis
Nash, W. Hampton, St. Louis
Nathan, Lester J., St. Louis
Neal, M. Pinson, Columbia
Needels, Orval T., Kansas City
Neilson, Arthur W., St. Louis
Nelson, Bentley A., Kansas City
Nelson, Fred L., St. Joseph
Nelson, J. Roger, Kirkwood
Nelson, James S., St. Louis
Nelson, Kenneth R., St. Louis
Nemec, Stanley S., St. Louis
Ness, Carl K., St. Joseph
Nesselrode, John H., Independence
Nester, Charles A., St. Louis
Netherton, George F., Cameron
Neu, Leo T. Jr., Springfield
Neubeiser, Ben L., St. Charles
Neun, William F., St. Louis
Neville, Edwin C., St. Louis
Newman, Mary J., Cassville
Newman, Percy, St. Louis
Newman, Robert L., Kansas City
Newport, Gerald, Creve Coeur
Newton, William T., St. Louis
Nickel, James F., St. Louis
Nickson, Charles E. Jr., Independence
Nicolai, Charles H., St. Louis
Nicolay, Kenneth S., Kansas City
Nicolay, William R., St. Louis
Niedermeyer, Edward L., Tarkio
Niedermeyer, George J., St. Louis
Niesen, Frank J., St. Louis
Nigh, Charles A., St. Louis
Nigro, Dominic M., Kansas City
Nigro, E. Robert, Kansas City
Nigro, Joseph A., Kansas City
Nishi, James A., St. Louis
Nishi, Toshio, St. Louis
Nixon, Edward E., Gallatin
Noah, Joseph W., St. Louis
Nofles, James W., St. Louis
Nolan, Charles J., St. Louis
Nolen, Jack R., Gadsden, Ala.
(Member Cooper County Medical Society)
Noller, Henry W., Overland
Noltensmeyer, Milton N., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Nonkin, Paul M., Florissant
Northup, Glenn R., St. Louis
Norton, William H., St. Louis
Nouri, Hassan, St. Louis
Nuetzel, John A., St. Louis
Nunn, Pat M., Kansas City, Kan.
(Member Jackson County Medical Society)
Nunnelly, Gordon M., Cape Girardeau
Nussbaum, Paul B., Cape Girardeau
Nussbaum, Robert A., St. Louis
Nye, Robert S., St. Louis

O

Oakley, John E., Prescott, Ariz.
(Member St. Louis County Medical Society)
Oakley, Margaret M., St. Louis
O'Bannon, L. W. Jr., Florissant
Obermeyer, Charles G., St. Louis
O'Brien, Edward C., St. Louis
O'Brien, Harry F., Mexico
O'Brien, James A., Muskogee, Okla.
(Member Jasper County Medical Society)
O'Brien, Leo A., Kansas City
O'Brien, Robert M., St. Louis
O'Connor, Robert J., Florissant
O'Connor, William B., St. Joseph
O'Dell, Timothy T., Oran
O'Donnell, Joseph V., St. Louis
O'Dowd, James A., St. Louis
Oehler, William F., Cape Girardeau
Oetter, Donald L., St. Louis
Ogilvie, John H., Gravois Mills
Ogura, Joseph H., Ladue
O'Hearne, John J., Kansas City
Ohmoto, Masao, St. Louis
O'Keefe, Joseph D., St. Louis
O'Leary, James L., St. Louis
Olin, Robert H., St. Louis
Olive, George C., Neosho
Oliver, George A., Farmington
Olmsted, William H., St. Louis
O'Malley, Eugene J., St. Louis
O'Malley, James F., Kansas City
O'Neal, Lawrence W., St. Louis
O'Neal, Patricia, St. Louis
O'Neil, James H., Kansas City
O'Neill, John B., St. Louis
Ongjoco, Melchor I., St. Louis
Oppenheimer, Henry E., Clayton
O'Reilly, D. Elliott, St. Louis
Orenstein, Joseph M., St. Louis
Orgel, M. Norman, St. Louis
Ortmeyer, Leroy F., St. Louis
Osborne, Charles D., Sedalia
Ossman, Julian A., Jefferson City
Ost, Mark D., Kansas City
O'Sullivan, George A., St. Louis
Ott, Harold J., St. Louis
Ott, Harold J., Maplewood
Ottensmeyer, Charles D., Overland
Otto, Thomas G., Cape Girardeau
Overend, D. S., Springfield
Overesch, Harry B., Kansas City
Overholser, Milton D., Columbia
Owen, James W. Jr., St. Louis
Owen, Nicholas, New York, N. Y.
(Member St. Louis Medical Society)
Owen, Robert F., St. Louis
Owens, Graham J., Kansas City
Owens, Hugh H., Kansas City
Owens, Richard L., Kansas City
Owens, Robert H., Kansas City
Ozar, Milton B., Kansas City

P

Packman, Robert C., St. Louis
Paddock, Charles S., Joplin
Padfield, Earl G. Jr., Kansas City
Paine, Robert, St. Louis
Painter, Andrew E., Portageville
Painter, Lattie B. Jr., Portageville
Pakula, Sidney, Kansas City
Palazzo, Frank A., St. Louis
Palcheff, Chris L., Springfield
Palenske, Robert L., Hornersville
Paletta, Francis X., St. Louis
Pallett, Harold A., Kansas City
Papp, Sandor D., Joplin
Parashak, Paul M., St. Louis
Parato, John M., St. Louis
Pareira, Morton D., St. Louis
Paris, William H., St. Louis
Park, George M., Eureka
Park, William I. Jr., Springfield
Parker, Arthur C. Jr., Poplar Bluff
Parker, Brent M., St. Louis
Parker, Elmer L., Kansas City
Parker, H. Graham, Platte City
Parker, Hubert M., Kansas City
Parker, Robert H., N. Kansas City
Parker, Thomas W., University City
Parker, William, St. Louis
Parks, Stephen, Prairie Village, Kan.
(Member Semo County Medical Society)
Parsons, D. LeRoy, Cape Girardeau
Parsons, Eugene O., Kansas City
Parsons, Richard P., St. Louis
Pascoe, James J., Nevada
Passanante, Bartholomew M., St. Louis
Passman, Harold, Kansas City
Pate, Otho S., N. Kansas City
Patterson, Donald R., Joplin
Patterson, Grover S., Carthage
Patton, William G., Ironton
Pawol, S. E., St. Louis
Payne, John W., Columbia
Payne, Meredith J., St. Louis
Pearl, John F., St. Clair
Pearse, Roy W. Jr., Nevada
Pearson, Paul E., Mission, Kan.
(Member Jackson County Medical Society)
Peck, Chester R. Jr., Kennett
Peckham, John W., St. Louis
Peden, Burnet W., Clayton
Peden, Joseph C., St. Louis
Peden, Joseph C. Jr., St. Louis
Peebles, J. B. Jr., Kirkwood
Peeler, James O., St. Louis
Peete, Don C., Kansas City
Pelz, Mort D., Miami, Fla.
(Member St. Louis Medical Society)
Pence, F. Wendell, Carthage
Penn, Robert M., Silex
Penner, Stanley, Kansas City
Penney, David L., St. Louis
Penninger, William H., Springfield
Pennington, Francis E., St. Louis
Pennoyer, James, Webster Groves
Perll, Maurice F., Kansas City
Perll, Rita D., Kansas City
Pernoud, Flavius G. Jr., St. Louis
Pernoud, Michael F., St. Louis
Perry, David C., Mound City
Perry, H. Mitchell, Kirkwood
Perry, John M., Princeton
Perry, Lawrence L. Jr., Roswell, N. M.
(Member Clay County Medical Society)
Perry, Ralph, Kansas City
Perry, William D., St. Louis
Peters, Evelyn L., Kansas City
Petersen, Arthur G., Kansas City
Petersen, Eugene G., Kansas City
Petersen, Harold E., St. Joseph
Peterson, Carl M., Kansas City
Peterson, Frederick D., St. Louis
Peterson, George L., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Peterson, Malcolm L., St. Louis
Peterson, Milton C., Kansas City
Peterson, Stanley S., Springfield
Peterson, Walter R., Kansas City
Petry, Ezra L., Kansas City
Pettit, Manson B., St. Joseph
Peugnet, Hubert B., St. Louis
Pfeffer, Robert I., St. Joseph
Pfeifer, Oliver C., St. Louis
Pfuetze, Edwin L., Kansas City
Phelps, William L., New York, N. Y.
(Member St. Louis Medical Society)
Phillips, Hanford, St. Louis
Piccione, Leonard M., St. Louis
Pickard, Clarence M., Columbia
Pickard, Nicholas S., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Pickens, E. Allen, Nevada
Pickens, Edgar E., Kansas City
Pierron, John B., Kansas City
Pifer, Lawrence H., St. Joseph
Pileggi, Felix A., N. Kansas City
Pilla, Lawrence A., St. Louis
Pingelton, William B., Columbia
Pinsker, Oscar T., Kansas City
Piper, August T., St. Louis
Piper, Donald K., Kansas City
Pipes, Keith E., Brentwood
Pipkin, Garrett, Kansas City
Pittam, Radford F., Hutchinson, Kan.
(Member Jackson County Medical Society)
Platt, William R., Clayton
Platz, John H., Carrollton
Plesons, John D., St. Louis
Plowman, Edward M., Hannibal
Plumlee, John E., Columbia
Plumlee, William C., Springfield
Plumpe, W. Tupper, St. Louis
Podrecca, Guido I., Springfield
Poggemeier, William H. Jr., St. Charles
Polk, George M., Kansas City
Polk, John W., Springfield
Pollack, Maxwell A., St. Louis
Pollock, Leo H., Kansas City
Poor, Carl W., Neosho
(Member Jasper County Medical Society)
Pope, Charles H. Jr., Independence
Popp, Carl G., Sikeston
Porporis, Arthur A., St. Louis
Porter, Louis, Kansas City
Porter, Russell C., Tucson, Ariz.
(Member Clay County Medical Society)
Porterfield, John F., Columbia
Portuondo, Bonaventura C., St. Louis
Post, Cyril A., Poplar Bluff
Post, John P., Washington
Post, Lawrence T. Jr., St. Louis
Post, M. Hayward, St. Louis
Post, Winfred L., Joplin
Potashnick, Robert, St. Louis
Potter, Allen B., Bowling Green
(Member St. Louis Medical Society)
Potter, Caryl A. Jr., St. Joseph
Potter, Lee G., Kansas City
Potter, Reese H., St. Louis

Potter, Thompson E., St. Joseph
Potts, Donald A., Kansas City, Kan.
(Member Jackson County Medical Society)
Powell, Carl A., St. Louis
Powell, Charles B., Florissant
Powell, Earl A., St. Louis
Powell, Edwin M., Springfield
Powell, Robert G., Joplin
Powers, John M., Kansas City
Powers, Pierce W., St. Louis
Pozsgay, Michael S., St. Louis
Pranger, Sylvester H., St. Louis
Prater, Bill G., Springfield
Prentiss, Harry S., Kansas City
Presnell, Cleitus A., St. Louis
Press, Maurice J., St. Louis
Preston, Albert Jr., Kansas City
Price, Charles H., Cassville
Price, Kenneth C., St. Louis
Printz, Joseph H., Kansas City
Printz, Otto J., Kansas City
Probstein, Jacob G., St. Louis
Proctor, Donald C., Sedalia
Proetz, Arthur W., St. Louis
Pruett, Burchard S., St. Louis
Pruett, Hubert S., St. Louis
Pruett, Paul L., Springfield
Pucci, Gregory L., Kansas City
Pugh, Richard G., Independence
Purcell, Harry K., New Delhi, India
(Member St. Louis Medical Society)
Purcell, P. L., Hull, Ill.
(Member Marion-Ralls-Shelby County Medical Society)
Purkerson, Mabel L., St. Louis
Pyne, Herbert S., St. Louis

Q

Quer, Erich A., Kansas City
Quick, Richard T., St. Louis
Quistgard, Paul C., Kansas City

R

Rachlin, Maxwell, Brentwood
Rader, Ada B., Kansas City
Rader, Edward S., St. Louis
Rader, George B., St. Louis
Raemdonck, Alphonse J., St. Louis
Ragland, John E., Ballwin
Ragsdale, George M., Paris
Raich, Robert A., Kansas City
Rainey, Robert, St. Louis
Rainwater, Elmer H., Springfield
Rall, Kenneth L., Columbia
Ramey, Ehret O., Kansas City
Ramos, John F. Jr., Kansas City
Ramos, Raoul L., St. Louis
Ramsey, Robert H., Ferguson
Randall, Don Q., St. Charles
Rannie, Paul R., Independence
Ransdell, James F., Carmichael, Calif.
(Member Boone County Medical Society)
Rao, Carlo, St. Louis
Rapp, Earl L., Hannibal
Rapp, Harold B., Cape Girardeau
Rappold, H. O., St. Louis
Rawlins, Fred E., Cape Girardeau
Rawlins, Kelly, Holden
Ray, C. Thorpe, Columbia
Ready, James H., Florissant
Reas, Herman W., St. Louis
Rector, Joe L. Jr., Kansas City
Redington, James C. Jr., Clayton
Redmond, William, St. Joseph
Reeder, Charles C., New Madrid
Reese, A. Victor, St. Louis
Reh, Edward P., St. Louis
Rehm, Ralph, Bloomfield
Reich, Harry A., St. Louis
Reich, Oliver F., Kimmswick
Reichert, M. Cecilia, St. Louis
Reiches, Aaron J., St. Louis
Reid, James A., Marshall
Reid, William F., Richmond, Va.
(Member St. Louis Medical Society)
Reider, Richard A., St. Louis
Reilly, Leo J., St. Louis
Reilly, Pierce J., St. Louis
Reineck, John A., St. Louis
Reinhard, Edward H., St. Louis
Reinhardt, George R., Kansas City
Reis, Carl J., St. Louis
Reiss, Eric, University City
Reister, Dorothy D., Kansas City
(Member St. Louis County Medical Society)
Reister, Philip D., Kansas City
Reitman, Stanley, St. Louis
Reitz, Carl H., Kansas City
Remley, George C., Kansas City
Rendleman, George F., St. Louis
Rennard, Marvin, St. Louis
Repetto, Albert M., St. Louis
Repp, Theodore J., St. Louis
Reuter, Louis A., St. Louis
Revare, Paul, N. Kansas City
Reynolds, Clarence C., Kansas City
Reynolds, Fred, St. Louis
Reynolds, Garland A., Cape Girardeau
Reynolds, James R., Neosho
Rhoades, Arthur B., Kansas City
Rhodes, Euhlan L., Warsaw
Rice, Carl E., Hillsboro
Rice, Earl R., Fort Lauderdale, Fla.
(Member St. Louis Medical Society)
Rice, Grover C., Brunswick
Richards, Frank O., St. Louis
Richardson, George A., Union
Richardson, Marion W., Kansas City
Richardson, Reginald G., Jefferson City
Richardson, William D., East St. Louis, Ill.
(Member Clay County Medical Society)
Richardson, William R., Union
Richert, Robert C., Kansas City
Richman, Elmer, St. Louis
Richter, William B., Stockton
Riddell, Richard V., St. Joseph
Ridings, Gus R., Columbia
Ridings, Harold D., Cape Girardeau
Ries, Douglas A., St. Louis
Riffel, Gordon W., Bourbon
Rifkin, Shale M., St. Louis
Riggio, Salvatore N., St. Louis
Rigney, Levi M., Springfield
Riley, Charles T., Richmond
Riley, John J., St. Louis
Riley, Joseph P. Jr., Kansas City
Riley, Ralph D., St. Louis
Riley, Ralph W., Homewood, Ill.
(Member Lafayette-Ray County Medical Society)
Riley, William H., St. Louis
Riller, Lowell E., Kansas City
Rinck, Edward C., Nevada
Ringo, Henry J., St. Louis
Rinkel, Herbert J., Kansas City
Rinker, Carl T. Jr., Macon
Riordan, Lawrence M., St. Louis
Ripley, C. E., Poplar Bluff
Ritchie, Frances R., St. Louis
Ritter, Hubert A., St. Louis
Ritter, Paul J., St. Louis
Ritter, Raymond A., Cape Girardeau
Ritterbusch, James K., Fulton
Roark, Glenn E., Columbia
Roberts, Grosvenor G., Kansas City
Roberts, Harold K., Clayton
Roberts, Harold M., Kansas City
Roberts, John P., Kirkwood
Roberts, John R., St. Louis
Roberts, L. Marvin, Kansas City
(Member Clay County Medical Society)
Roberts, Paul A., Sweet Springs
Roberts, Sam E., Kansas City
Robertson, Frank G., St. Louis
Robertson, Robert C., Fulton
Robertson, William D., Poplar Bluff
Robertson, William D., Kansas City
(Member Clay County Medical Society)
Robichaux, Eugene B., Excelsior Springs
Robins, Eli, St. Louis
Robinson, Arthur W., Kansas City
Robinson, Edith C., St. Louis
Robinson, Edward E., Kansas City
Robinson, E. Kip, Kansas City
Robinson, George G., Humansville
Robinson, G. Wilse Jr., Kansas City
Robinson, John A., Edgerton
Robinson, William J., Leawood, Kan.
(Member Jackson County Medical Society)
Robison, James T. Jr., Kansas City
Roblee, Melvin A., St. Louis
Roche, Maurice B., St. Louis
Rodeman, John M., Sedalia
Rodes, Ned D., Mexico
Rodgers, Elrie P., Columbia
Rodgers, George H., Kansas City
Rodgers, Samuel U., Kansas City
Roehrs, Marvin E., Marshall
Rogers, Cyril H., St. Louis
Rogers, John A., St. Louis
Rogers, John T., St. Joseph
Rogers, Robert L., Kansas City
Rohlfing, Edwin H., St. Louis
Rohlfing, Walter H., St. Louis
Roller, Merrill J., Hannibal
Rollins, Harry D., Winona
Rolufs, Lloyd S., Kirkwood
Rolwing, E. Charles, Charleston
Ronald, Douglas C., Butler
Roodman, Herman J., Clayton
Roos, Albert, St. Louis
Roper, Charles L., St. Louis
Roper, Stanley D., Ozark
Rose, Charles W., Kansas City
Rose, Dalton K., St. Louis
Rosecan, Marvin, St. Louis
Rosen, Charles S., St. Louis
Rosen, Max, Springfield
Rosenbaum, Harry D., St. Louis
Rosenbaum, Herbert E., St. Louis
Rosenfeld, Henry, St. Louis
Rosenstein, Daniel L., St. Louis
Rosenthal, Irwin I., St. Joseph
Ross, Gilbert Jr., Columbia
Rost, William B., St. Joseph
Roter, Alexander M., St. Charles
Roth, John J., St. Louis
Rother, Paul H., St. Charles
Rothman, David, St. Louis
Rothweiler, Robert J., St. Louis
Roufa, Joseph F., St. Louis
Roulhac, George E., St. Louis
Rouse, David M., Mexico
Rouse, Ernest T., St. Louis
Rowlette, Avery P., Moberly
Roy, Joseph A., Jennings
Royce, James J., Sarcoxie
Royce, Robert K., St. Louis
Royce, Roy P., Sullivan
Royston, Grandison D., Hope, Ark.
(Member St. Louis Medical Society)
Rubenstein, Melvin, St. Louis
Rubin, Robert, St. Louis
Rubin, Sidney, Kansas City
Rubnitz, Leon H., Kansas City
Ruddell, George W., St. Louis
Rudi, Herbert J., St. Louis
Rufe, John R., Kansas City
Ruff, T. Eugene, Poplar Bluff
Ruhling, Rudy, St. Louis
Rush, Joseph C., St. Louis
Rusk, Earl M., Camdenton
(Member Callaway County Medical Society)
Russell, Barbara E., Rolla
Russell, Earl D., Springfield
Russell, Herman E., St. Louis
Russell, James L., Kansas City
Russell, Joseph P., Jefferson City
Russell, Richard L., Kansas City
Russell, Robert K., Raytown
Rutledge, John F., Festus
Rutledge, William J., Campbell
Ryan, John B., Washington
Ryan, John H., St. Joseph
Ryan, John J., Clayton
Ryan, Robert E., St. Louis

S

St. John, Thomas C., St. Louis
Sachar, Leo A., St. Louis
Saferstein, A. Lester, Kansas City
Sala, Jose, Columbia
Saladino, Anthony, Kansas City
Sale, Llewellyn, St. Louis
Sale, Llewellyn Jr., St. Louis
Salisbury, William J., St. Louis
Saltzstein, Sidney, Coronado, Calif.
(Member St. Louis County Medical Society)
Sammons, Harry C., St. Louis
Sample, Robert L., Mansfield
Samuelson, Edward A., Kansas City
Sanders, George E., Excelsior Springs
Sanders, Harmon U. Jr., Independence
Sanders, J. S., Jefferson City
Sanders, Robert D., St. Louis
Sanders, Theodore E., St. Louis
Sanders, William F., Kansas City
Santanello, William M., St. Louis
Sante, Leroy R., St. Louis
Santiago, Miguel, St. Louis
Santoro, Carlos G., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Saper, Philip, Lee's Summit
Sargent, Alden P., Sikeston
Sargent, John P., Sikeston
Sarno, Samuel M., Morehouse
Sato, George, St. Louis
Satterfield, Val B., Chesterfield

Sauer, Gordon C., Kansas City
Sauer, W. Nicholas, St. Louis
Saunders, Everett L., Independence
Sawyer, Floyd E., N. Kansas City
Sawyer, James, St. Louis
Scanlon, Robert C., Springfield
Scarpellino, Louis, Kansas City
Schaan, Robert C., St. Louis
Schaefer, George J., St. Louis
Schaefer, Glennon S. Jr., St. Louis
Schaerer, Jacques P., St. Louis
Schaerrer, William C., Kansas City
Schaper, Ernest H., St. Louis
Schattyn, Martyn, St. Louis
Schupmann, Gustav A., St. Louis
Schechter, Samuel E., St. Louis
Scheele, Paul M., St. Louis
Scheer, George E., St. Louis
Scheff, Harold, St. Louis
Scherman, Victor E., St. Louis
Schertz, Truman B., N. Kansas City
Scheuber, Charles, Columbia
Schewe, A. Craig, St. Louis
Schewe, Elmer J. Jr., Columbia
Schierman, William D., Clayton
Schiffmacher, Jack E., Kansas City
Schillie, Gene A., Kansas City
Schlansky, Seymour M., St. Louis
Schlenker, Lawrence, St. Louis
Schluer, Elmer P., St. Louis
Schmidt, Charles A., Gerald
Schmidt, Edwin H., St. Louis
Schmidt, Edmund M., St. Louis
Schmidt, Herbert H., Washington
Schmiemeier, Roy H., St. Louis
Schmitz, Edgar F., St. Louis
Schneider, Oscar, St. Louis
Schneider, Sam, St. Louis
Schneider, Thomas A., St. Charles
Schoeberl, Cletus B., Joplin
Schoentag, John S., St. Louis
Schopp, Alvin C., St. Louis
Schorer, Edwin H., Kansas City
Schottman, Gerhard W. Jr., Kansas City
Schranck, Charles R., St. Louis
Schroeder, Henry A., St. Louis
Schroff, Carle H., Springfield
Schulte, Gregory A., Joplin
Schultz, Loraine E., Branson
Schultz, Samuel, St. Louis
Schuman, Stanley H., Ann Arbor, Mich. (Member St. Louis County Medical Society)
Schupmann, Gustav A., Chesterfield
Schutz, Carl B., Kansas City
Schutz, Richard B., Kansas City
Schwartz, Eugene J., Springfield
Schwartz, Frederick O., St. Louis
Schwartz, Henry G., St. Louis
Schwartz, John T., Columbia
Schwartz, Melvin M., St. Louis
Schwartzman, Bernard, St. Louis
Schweiss, John F., St. Louis
Schweitzer, Fred C. Jr., Springfield
Sciortino, Gaspare, St. Louis
Sciortino, John S., St. Louis
Scokel, Paul W. III, St. Charles
Scopelite, Joseph A., St. Louis
Scorse, Sidney W., Joplin
Scott, Clive D., Louisiana
Scott, Elwin P., St. Louis
Scott, Wendell G., St. Louis
Seabaugh, Dayton I. L., Jackson
Seabaugh, Loy R., Cape Girardeau
Seabaugh, Oda L., Cape Girardeau
Seabaugh, Ottis D., Webster Groves
Seabaugh, William O. L., Cape Girardeau
Seabold, John A., University City
Seddon, John W., St. Louis
See, William B., Columbia
Seeley, James B., Independence
Seeley, James J., St. Louis
Seely, Clark W., Kansas City
Seib, George A., St. Louis
Seidel, Donald R., St. Louis
Senn, Emmett J., Herculaneum
Seene, Herbert C., St. Joseph
Sennott, John S., Jefferson City
Senor, Samuel E., St. Joseph
Senturia, Ben H., St. Louis
Senturia, Hyman R., St. Louis
Serkes, Kenneth D., St. Louis
Sertl, John D., St. Louis
Sevastianos, Aristides E., St. Louis
Sevin, Omar R., Rockhall, Md. (Member St. Louis Medical Society)
Sewell, Minor F., Kansas City
Sewell, Walter S., Springfield
Sewing, Arthur H., St. Louis
Sexton, Daniel L., St. Louis
Sexton, Elmer E., St. Louis

Shackelford, Horace H., St. Louis
Shackelford, Elbert C., Kansas City
Shah, Anwar, St. Louis
Shahan, Philip T., St. Louis
Shaner, John F., St. Louis
Shank, Robert E., St. Louis
Shapiro, Laraze M., Kansas City
Shapleigh, John B., St. Louis
Sharp, Austin R., St. Louis
Shatz, Burton A., St. Louis
Shaw, Carvel T., Hermann
Shaw, Gordon, Mexico
Shaw, William J., Fayette
Shaw, William J. Jr., Fayette
Shea, James G., Gerald
Sheahon, John A., Kansas City
Shecter, Nathan, Kansas City
Sheets, John S., St. Louis
Sheets, Martin E., Chesterfield
Shelden, Russell D., Kansas City
Sheldon, John, Kansas City
Shelton, Earl W., St. Louis
Shelton, Edward O., Eldon
Shen, Jerome T. Y., St. Louis
Sheppard, Lee C. Jr., San Diego, Calif. (Member Boone County Medical Society)
Sherard, Julius C., St. Louis
Sheridan, Edmund R., St. Louis
Sherman, Alfred I., St. Louis
Sherry, Sol, St. Louis
Sherwin, Charles S., St. Louis
Shevlin, Charles F., St. Joseph
Shieber, William, St. Louis
Shifrin, Alexander, Kansas City
Shireman, Kenneth L., Kansas City
Shires, Edward B., Leawood, Kan. (Member Jackson County Medical Society)
Shirey, Arnold G., Hayti
Shobe, Frank O., St. Louis
Shockley, Clarence J., Kansas City
Shoftstall, Charles K., Kansas City
Shoss, Milton, Cape Girardeau
Shreffler, Algie R., Tavernier, Fla. (Member St. Louis Medical Society)
Shrout, Cecil B., Bunceton
Shuey, Herbert H., Kansas City
Shull, George D., Jefferson City
Shuman, Joseph S., St. Louis
Shumate, L. St. Clair, Reeds Springs
Shutt, Cleveland H., St. Louis
Shyken, Herman, St. Louis
Shypper, Moses J., Kansas City
Siceluff, Joseph G., Springfield
Siegel, Carl D., Sedalia
Siemers, George E., St. Louis
Sierra, Gregorio, Belleville, Ill. (Member St. Louis Medical Society)
Siesener, Herbert H., St. Louis
Sievers, Edward F., Miami Beach, Fla. (Member St. Louis Medical Society)
Sights, Warren P. Jr., Columbia
Signorelli, Andrew J., St. Louis
Silsby, Don H., Springfield
Silsby, Don J., Springfield
Silsby, Harry D., Springfield
Silverberg, Charles, St. Louis
Silvermintz, Saul D., Ladue
Simms, Otho M., St. Charles
Simon, David L., St. Louis
Simon, Jerome I., St. Louis
Simon, Nathan M., Clayton
Simon, Sanford, Shawnee Mission, Kan. (Member Jackson County Medical Society)
Simon, Selig, St. Louis
Simpson, Albert P., Springfield
Simpson, Eber, St. Louis
Simpson, Emerson L., Springfield
Simpson, Lloyd, Columbia
Simril, Wayne A., Clayton
Sims, William A. Jr., St. Louis
Sinclair, Alexander B., Kansas City
Singleton, John M. III, Kansas City
Sisk, James C., St. Louis
Sisson, Richard G., St. Louis
Skeffington, Mary J., St. Louis
Skilling, David M. Jr., St. Louis
Skillman, Robert K., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Skinner, John O., Kansas City
Skinner, John S., St. Louis
Skinner, John T., Kansas City
Sklenar, Donald E., St. Joseph
Slaughter, Shelby C., Fredericktown
Slentz, Edwin L., Kansas City
Slentz, William A., Kansas City
Slickman, Robert A., Kansas City

Smart, Leon A., St. Louis
Smathers, John H., Los Altos, Calif. (Member St. Louis Medical Society)
Smiley, William, St. Louis
Smit, Herbert M., St. Louis
Smith, Arthur A., Belleville, Ill. (Member St. Louis Medical Society)
Smith, Arthur B., Kansas City
Smith, Audra B., Sikeston
Smith, Benjamin F. Jr., St. Louis
Smith, C. Souter, Springfield
Smith, Carl C. Moberly
Smith, Clifton, St. Joseph
Smith, Dale C., Kansas City
Smith, Dermott, St. Louis
Smith, Frank J., St. Louis
Smith, Garland F., St. Louis
Smith, George E., Kirkwood
Smith, Grafton A., Columbia
Smith, Harvey S., Springfield
Smith, Herbert P., St. Louis
Smith, Hubert E., Kansas City
Smith, Hugh R., St. Louis
Smith, Ira T., Kansas City
Smith, J. Earl, St. Louis
Smith, Jack I., St. Louis
Smith, James O., Clinton
Smith, Jason N. Jr., Columbia
Smith, Joe R., Columbia
Smith, John R., St. Louis
Smith, Katherine W., Kansas City
Smith, Kathleen, St. Louis
Smith, Milton, St. Louis
Smith, O. D., Mission, Kan. (Member Jackson County Medical Society)
Smith, Robert A., Kansas City
Smith, Robert M., St. Louis
Smith, Robert S., Portageville
Smith, Robert W., Marceline
Smith, Roland T., Joplin
Smith, Rollin H., West Plains
Smith, Sidney E., St. Louis
Smith, Wallace B., Independence
Smith, William J., Hannibal
Smith, William J., Windsor
Smith, William R., Carthage
Smolik, Edmund A., St. Louis
Smoller, Martin B., St. Charles
Snead, William H. Jr., Springfield
Sneid, Philip, Kansas City
Snider, Samuel H., Kansas City
Snider, Wilbur R., Kansas City
Snyder, Edward N., St. Louis
Sommer, Conrad S., St. Louis
Sommer, Ross B., St. Louis
Soule, Samuel D., St. Louis
Spafford, Allen L., Kansas City
Spalding, Wilber B., Plattsburg
Spears, Charles A., Branson
Spears, Joe L., Cabool
Spector, Gene W., St. Louis
Spelman, Archibald E., Smithville
Spence, Elbert L., Kennett
Speno, Algelo A., St. Louis
Spinzig, Edgar W., Kirkwood
Spitz, Milton A., Milwaukee, Wis. (Member St. Louis County Medical Society)
Spitzer, Ernest, University City
Spoeneman, Marlin C., St. Louis
Spoenemann, Walter H., St. Louis
Sportsman, Weldon L., Kansas City (Member Clay County Medical Society)
Spratt, John S. Jr., Columbia
Spurgeon, Milo J., Columbia
Spurny, Otto M., Kansas City
Stacy, Wallace R., Independence
Stacy, Winton T., St. Joseph
Staehle, Melvin E., St. Louis
Staggs, William A., Kansas City
Staley, Harry R., Kansas City
Stallard, Donald J., St. Joseph
Stamp, Warren C., St. Louis
Stansbrough, Raymond A., St. Louis
Starke, Helen, Kansas City (Sister Paula Theresa)
Starkloff, Gene B., St. Louis
Starkloff, Max, St. Louis
Statland, Harry, Kansas City
Statland, Morris, Kansas City
Staton, R. Hamilton, Carrollton
Stauffacher, C. Gordon, Sedalia
Stauffer, Harry B., Jefferson City
Steele, Jack T., St. Louis
Steele, James C. Jr., Hannibal
Steffen, Lawrence F., Kansas City
Stegman, Elmer G., Raytown
Stein, Arthur H. Jr., St. Louis
Stein, Harry J., St. Louis
Stein, Joseph W., Kansas City

Stein, Leonard A., St. Louis
Steinbeck, Herbert D., Union
Steinbeck, Herbert F., St. Louis
Steinberg, Franz U., St. Louis
Steiner, Alexander J., St. Louis
Stelle, Charles W., Kansas City
Stelmach, Walter J., Kansas City
Stephan, August P., Jefferson City
Stephens, LeRoy J., St. Louis
Stephens, Louis F., St. Louis
Stephens, William A., St. Louis
Stephenson, Hugh E. Jr., Columbia
Stergen, Nick E., St. Louis
Sterkel, Richard L., St. Louis
Sterling, John A., Kirkwood
Stevens, Robert W., St. Louis
Stewart, Floyd, St. Louis
Stewart, Frances H., St. Louis
Stewart, John W., St. Louis
Stewart, Robert B., Springfield
Stewart, Robert H., Sedalia
Stewart, R. Wendell, Springfield
Stewart, Wendell K., St. Louis
Stewart, William J., Columbia
Stickle, Arthur W., St. Louis
Stickler, Ralph O., Kirksville
Stindel, Charles E., St. Louis
Stockton, Raymond W., Kansas City
Stockwell, A. Lloyd, Kansas City
Stokes, James M., St. Louis
Stolar, Jacob, St. Louis
Stoneman, William III, St. Louis
Stotts, Charles S., Prairie Village, Kan.
(Member Jackson County Medical Society)
Stratemeier, Edward H., Kansas City
Strauchen, Gilbert W., St. Louis
Strauss, Arthur E., St. Louis
Strauss, Carl F., Kansas City
Streetor, Roderick D., St. Louis
Strehlman, Benjamin G., Union
Stricker, Emil A., St. James
Stricker, Harold C., Jefferson City
Strittmatter, James C., Caruthersville
Strominger, Donald B., St. Louis
Strong, Richard M., Hannibal
Stryker, Garold V., St. Louis
Stryker, William I., Ladue
Stuart, Byron M., Boonville
Stuart, Daniel D., Brunswick
Stuart, Wallace, Manchester
Stude, William C., St. Louis
Stuebner, Roland W., St. Louis
Stufflebam, Robert E., Springfield
Sturner, William Q., Waseca, Minn.
(Member St. Louis Medical Society)
Sturtevant, Harwood N., Springfield
Stutsman, Albert C., St. Louis
Suba, Antonio R., St. Louis
Sudholt, Alfred F. Jr., St. Louis
Sugarbaker, Everett D., Jefferson City
Sullivan, Clement J., St. Louis
Sullivan, William J., Providence, R. I.
(Member North Central Counties Medical Society)
Sullivan, William W., St. Louis
Summers, Caldwell B., Kansas City
Summers, Jacob H., Lebanon
Summers, John B., St. Louis
Summers, Joseph S. Jr., Jefferson City
Summers, Thomas F., St. Louis
Sunderman, Raymond C., St. Louis
Sundstrom, Frank D., Springfield
Sunshine, Herbert, St. Louis
Susman, Irvin C., St. Louis
Susman, Noah, St. Louis
Sutherland, Gladys P., Bethany
Sutphin, John B., St. Louis
Sutter, Richard A., St. Louis
Sutton, Richard L Jr., Kansas City
Swafford, Owen J. Jr., Senath
Swarm, Richard L., Bethesda, Md.
(Member St. Louis Medical Society)
Sweany, Henry C., Mount Vernon
Sweet, Herbert C., Webster Groves
Sweets, Henry H. Jr., Hannibal
Sweiger, James H., Maysville
Swekosky, Frank J., St. Louis
Swisher, Robert C., Kansas City
Switzer, Clyde, Merriam, Kan.
(Member Jackson County Medical Society)
Swope, Joseph A., St. Louis
Sydow, Henry A., Fulton
Szahados, Ernest D., Independence
Szymanski, Stanley R., Moberly

T

Tadlock, Baxter W., St. Joseph
Tahir, Mohammad, St. Joseph
Talbott, Hudson, Louisville, Ky.
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Tanaka, George M., St. Louis
Tanner, Robert H., Jefferson City
Tapp, Ernest M., Poplar Bluff
Tapper, Stephen M., St. Louis
Tarrasch, Ernest L., Springfield
Tarson, Solomon S., Kansas City
Tarver, Quinton, Kennett
Tarvydas, Francis, Edina
Tashma, Sigmund, St. Louis
Tasker, Charles B., Kansas City
Tate, Lloyd L., St. Louis
Taussig, Barrett L., St. Louis
Taylor, Eugene D., St. Louis
Taylor, Eugene T., St. Louis
Taylor, Helen L., St. Louis
Taylor, Leo T., Neosho
Taylor, Leon A., Jefferson City
Taylor, Van W., Bonne Terre
Taylor, William E., Springfield
Teall, Raymond E., Kansas City
Teare, Max E., Kansas City
Teiber, Frederick W., St. Louis
Tellez, Edward R., Fulton
Ternberg, Jessie L., St. Louis
Terrill, Robert S., Kansas City
Tess, Melvin J. H., St. Louis
Tesson, James A., Kansas City
Thale, Thomas, St. Louis
Theel, Otto W. Jr., Kansas City
Thiele, Belmont R., St. Louis
Thiele, George H., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Thiele, O. K., St. Charles
(Member St. Louis County Medical Society)
Thoma, George E. Jr., St. Louis
Thomas, Charles S., St. Louis
Thomas, Christopher Y., Kansas City
Thomas, Forrest, St. Joseph
Thomas, Horace E., Columbia
Thomasson, David D., Springfield
Thomasson, Mary W., University City
Thomasson, Robert E., St. Louis
Thompson, Charles L., Kansas City
Thompson, Emma A. B., Columbia
Thompson, F. Gregg Jr., St. Joseph
Thompson, F. Gregg III, St. Joseph
Thompson, Ian M., Columbia
Thompson, J. William, St. Louis
Thompson, Lawrence D., St. Louis
Thorn, Druery R., Kansas City
Threadgill, Jesse M., Forsyth
Threlkeld, William L. Jr., Kansas City
Throgmorton, Howard B. Sikeston
Thurber, Claude M., Windsor
Thurman, Hill C., Parkville
Thym, Henry P., St. Louis
Tibbs, William A. Jr., St. Louis
Tice, Wayne K., Independence
Tichenor, Robert W., St. Louis
Tietjen, Frederick O., Jefferson City
Tiffany, D. E., Mountain View
Tillman, Mary A. T., St. Louis
Tillman, Walter W. Jr., Springfield
Tindall, Robert N., St. Louis
Tinsley, John C. Jr., Columbia
Tippett, Jack C., St. Louis
Titmarsh, J. B. Jr., Bethany
Titterington, Paul F., St. Louis
Tjoflat, Oliver E., St. Louis
Tobias, Norman, St. Louis
Todd, Thomas B., Nevada
Tombridge, Thomas L., Springfield
Tomlinson, William L., St Louis
Tonelli, George L., St. Louis
Tooker, Charles W., St. Louis
Torin, Bernice A., University City
Towers, Orvil'e W., St. Charles
Townsend, James A., Clayton
Townsend, Vincent F., Clayton
Tracy, Herbert A., Belton
Tracy, Terry A., Belton
Treiman, Robert C., St. Louis
Tremain, Ernest E., Maplewood
Tremain, Irl G., St. Louis
Tribble, Robert E., Chaffee
Trigg, Joseph F., St. Louis
Tripodi, Anthony M., Seal Beach, Calif.
(Member St. Louis Medical Society)
Trippe, Harrison C., Kansas City
Triska, Roland A., St. Louis
Trotter, Francis O. Jr., St. Louis
Trotter, W. Yates, Springfield
Trowbridge, Barnard C., Kansas City
Trowbridge, Ellsworth H., Prairie Village, Kan.
(Member Jackson County Medical Society)
Trowbridge, Ellsworth H. Jr., Kansas City
Trueblood, Alva C. Jr., St. Louis
Trugly, Edith S., St. Louis
Trulove, Laurance A., Kansas City
Trunko, Leo, Lemay
Tsang, John L. K., Springfield
Tucker, Eugene F., St. Louis
Tucker, George L., St. Louis
Tureen, Louis L., St. Louis
Turner, Glenn O., Springfield
Turner, James H., Poplar Bluff
Turner, James K., St. Louis
Turner, Percy C., Kansas City
Turner, Rush, St. Louis
Turner, William F., Poplar Bluff
Tutera, Dominic F., Kansas City
Tuthill, Herbert, Kansas City
Twedell, Donald L., St. Louis
Twin, Edward J., Kansas City
Twyman, Richard A., Kansas City
Tygett, Glenn J., Cape Girardeau
Tygett, Joseph N., Cape Girardeau

U

Uhlemeyer, Henry A., St. Louis
Ulett, George A., St. Louis
Ulett, Pearl C., St. Louis
Underwood, Dick H., Kansas City
Underwood, Harry A., Kansas City
Underwood, Johnson Jr., Kansas City
Underwood, Millard K., Rolla
Underwood, Ross H., Kansas City
Unger, Harold, Kansas City
Ungvari, Joseph C., St. Louis
Upsher, Albert E., Kansas City
Urban, Edgar D., Sikeston
Utley, James H., St. Louis
Utterman, William F., Perryville

V

Vacca, Joseph B., St. Louis
Vail, A. Denton, Springfield
Valach, Frank J., Brentwood
VanBiber, James T., Independence
Van Buskirk, Terrance E., Kansas City
Van Buskirk, William C., Kansas City
Vanderpearl, Robert H., St. Louis
Vandiver, Virgil D., Chillicothe
Vandover, John T., St. Louis
Van Matre, R. M., Washington, D. C.
(Member St. Louis Medical Society)
Van Norman, Robert T., St. Louis
Van Peenen, Hubert J., Columbia
Vatterott, Paul B., St. Louis
Vaughan, J. Russell, St. Louis
Vaughn, Arthur N., St. Louis
Vaughn, James W., Kansas City
Venable, H. Phillip, St. Louis
Verda, Dominic J., St. Louis
Vermillion, Crofford O., St. Louis
Vescovo, Paul C. Jr., Smithville
Vest, James C., St. Louis
Vezeau, Stephen, St. Louis
Viers, Wayne A., St. Louis
Vilmer, Charles, Kansas City
Vincent, Jack C., Kansas City
Vinyard, Jack L., Carrollton
Vinyard, Paul, St. Louis
Viraghaty, Julius Y., St. Louis
Virant, John A., St. Louis
Virden, Herbert H., Kansas City
Vitale, Anthony J., St. Louis
Vitale, Nicholas S., St. Louis
Vitt, Alvin E., St. Louis
Vitt, Edwin F., St. Louis
Viviano, Joseph G., St. Louis
Vizgird, Joseph J., St. Louis
Vogel, Eugene A., St. Louis
Vohs, Carl F., St. Louis
Vollmar, Clarence J., Webster Groves
Von Kaenel, Joseph E., St. Louis
Votaw, Robert E., St. Louis
Voth, Harold W., Kansas City
Vournas, Christopher G., St. Louis

W

Wacker, Leo L., St. Louis
Waddell, Kenneth E., Springfield
Waddle, Theodore L., Dexter
Wade, Frederick E., Kansas City

Wade, James P., St. Louis
Wadlow, Ernest E., St. Joseph
Wagenbach, William F., St. Joseph
Waggoner, Charles M., Columbia
Waggoner, Sharon E., St. Joseph
Wakefield, Elmer G., Springfield
Wakefield, Franklin H. Jr., Kansas City
Wakeman, Jasper N., Springfield
Wald, Stanley M., St. Louis
Walker, Ambrose T., Mammoth Springs, Ark.
(Member South Central Counties Medical Society)
Walker, Francis S., Clayton
Walker, George S., Clinton
Walker, Harvey Jr., University City
Walker, Hugh B., Clinton
Walker, James C., Kansas City
Walker, John W., Kansas City
Walker, Orville C. Jr., Independence
Walker, Paul W., Joplin
Walker, Willard B., Clayton
Walker, William M., Springfield
Wall, Albert, St. Louis
Wall, Emmett D., St. Louis
Wall, Harry C., Kansas City
Wall, Joe A., Houston
Wall, Leonard A., Kansas City
Wallace, Edgar S., Mexico
Wallace, Hilen K., St. Joseph
Walsh, James W., St. Louis
Walsh, Theodore E., St. Louis
Walsh, Thomas J., St. Louis
Walter, Archie L., Sedalia
Walter, Kenneth E., St. Louis
Walter, William L., St. Louis
Walters, Harold E., St. Louis
Walters, Henry W., St. Louis
Walters, John H., Columbia
Walters, Laura, Columbia
Walters, William H., St. Louis
Walterscheid, John H., Hannibal
Walther, Roy A. Jr., St. Louis
Walton, Franklin E., St. Louis
Walton, Marion C., Mountain View
Waltrip, Roy T. Jr., Sikeston
Wanamaker, John M., Rock Port
Ward, Joe, Lexington
Ward, Robert L., Centralia
Ward, Robert L., Kansas City
Warner, George K., Kirkwood
Warner, Robert G., St. Louis
Warren, T. Thomas, Poplar Bluff
(Member Mineral Area County Medical Society)
Warres, Herbert L., Springfield
(Member Buchanan County Medical Society)
Wassburn, J. Loren, Versailles
Washington, Edward L., Columbia
Wasserman, Helman C., St. Louis
Waterman, Franklin M., Liberty
Waters, E. Burton, Kirkwood
Waters, Hugh R., St. Louis
Watkins, George L. Jr., Farmington
Watson, Cecil L., Marshall
Watson, Ethel, Independence
Wattenberg, Carl A., St. Louis
Watts, Byron E., Jefferson City
Waxman, David, Kansas City
Waxman, Jane Z., Kansas City
Wayland, Thomas A., Camdenton
(Member Cole County Medical Society)
Weakley, David R., Kansas City
Webb, Harry E., Kansas City
Webb, Leslie R. Jr., Springfield
Webb, Marion A., St. Louis
Webb, Paul B., St. Louis
Webb, Paul B. Jr., St. Louis
Webb, Paul K., St. Louis
Weber, Eugene P., St. Louis
Weber, J. R., St. Louis
Weber, Sol, St. Louis
Weber, William K., Bridgeton
Webster, Joseph G., Kansas City
Webster, Roger W., Hayward, Calif.
(Membership Jasper County Medical Society)
Weed, Randel W., St, Joseph
Weeks, George R., Cape Girardeau
Weiford, Edward C., Kansas City
Weiler, Thomas J., St. Louis
Weinel, Francis G., St. Louis
Weinhaus, Robert S., St. Louis
Weinsberg, William C., St. Louis
Weintraub, Solomon A., St. Louis
Weir, Don C., St. Louis
Weir, Royal A., St. Louis
Weis, Matthew W., St. Louis
Weisbrod, Wilfred B., St. Louis
Weisman, Renate D., St. Louis
Weisman, Sol, St. Louis
Weiss, James M. A., Columbia
Weiss, Richard S., St. Louis
Weiss, Stuart, St. Louis
Weitman, Maximiliam, St. Louis
Welch, Hooper W., St. Louis
Welker, Joseph E., Kansas City
Well, Julius W., Palmyra
Wells, John H., Kansas City
Welsh, Laurence C., St. Louis
Weltscheff, Christo A., Kansas City
Wempe, G. Raymond, Maryville
Wenneker, Alvin S., St. Louis
Wennerman, Sam F., St. Louis
Wentzel, Louis R., St. Louis
Wepprich, Michael S., Washington
Werner, Dean F., N. Kansas City
Werner, Franklin C., Kansas City
Werner, William A., St. Louis
Werth, Duncan S., Glendale
West, Joseph W., St. Louis
Westerheide, Robert L., Columbus, Ohio
(Member St. Louis Medical Society)
Westerman, Henry C., St. Louis
Westrup, Arthur W., Webster Groves
Westrup, Ellsworth A., Webster Groves
Wetzel, Fred S. Jr., Carthage
Weyerich, Leon F., St. Louis
Wheeler, Charles B., Kansas City
Wheeler, John H., Kansas City
Wheeler, Robert L., Harrisonville
Whitaker, Topsy T. H., East Prairie
White, Charles H., Prairie Village, Kan.
(Member Jackson County Medical Society)
White, George A., Kansas City
White, Orville O., St. Louis
White, R. Ned, Springfield
White, Stoughton F., Kansas City
White, William E., Kansas City
White, William H. Jr., St. Louis
Whitehead, Frank F., Neosho
Whiteman, John R., Kansas City
Whitener, Miles C., St. Louis
Whitener, Paul R., St. Louis
Whitman, Doyle C., Kansas City
Whitmore, J. Stewart, Kansas City
Whitsell, Ora E., St. Joseph
Whitten, Marion F., Carthage
Whittico, James M., St. Louis
Wicks, Mary R., Molokai, Hawaii
(Member St. Louis Medical Society)
Wiedershine, Leonard J., St. Louis
Wiegand, Herbert C., St. Louis
Wieman, Harry K., Joplin
Wien, Irving A., Kansas City
Wiener, Meyer, Coronado, Calif.
(Member St. Louis Medical Society)
Wiese, Harry W., St. Louis
Wiggins, Roland L., Columbia
Wilcoxen, William B., Bowling Green
Wild, Aloysius A., St. Louis
Wiles, Jack N., West Plains
Wilhelm, Warren F., Kansas City
Wilkinson, Charles B., Kansas City
Wilkinson, Everett A., Kansas City
Will, Leo A., Venice, Fla.
(Member St. Louis Medical Society)
Williams, Carol F., St. Louis
Williams, Charles S., Malden
Williams, Edward B. Jr., St. Louis
Williams, Frank R., Kansas City
Williams, George P., Kansas City
Williams, John M., Liberty
Williams, John W., Oak Grove
Williams, John W., Springfield
Williams, John W. Jr., Springfield
Williams, Joseph C. Jr., Kansas City
Williams, Luke E., Kansas City
Williams, Ray D., St. Louis
Williams, Robert A., Kansas City
Williams, Robert S., Mexico
Williams, Roland D., Kansas City
Williams, Starks J., Kansas City
Williams, Vincent T., Kansas City
Williams, W. A. Jr., Fort Smith, Ark.
(Member Cape Girardeau County Medical Society)
Williamson, George L., Kansas City
Williamson, Oscar E., St. Louis
Williamson, Walter E., St. Louis
Willis, Norman E., Poplar Bluff
Willits, Lyle G., Kansas City
Willman, Charles R., St. Joseph
Willman, Vallee L., St. Louis
Willms, Janice L., St. Louis
Willoughby, James W., Liberty
Willoughby, Jean B., Kansas City
Willumsen, Henry C., St. Joseph
Wilson, Alice H., Joplin
Wilson, Charles F., Cape Girardeau
Wilson, Clifford C., Kansas City
Wilson, Daniel R., Mount Vernon
Wilson, Fred K., Winston
Wilson, George P., Columbia
Wilson, Hester J., Kansas City
Wilson, Hugh M., St. Louis
Wilson, John E., West Plains
Wilson, Keith S., St. Louis
Wilson, Kenneth O., St. Louis
Wilson, Loys C., Kennett
Wilson, Roy E., Springfield
Wilson, Vernon E., Columbia
Wilson, Virgil R., Rosendale
Wilucki, Leo E., St. Louis
Wilucki, Melvin R., St. Louis
Wimmer, Warren J., St. Louis
Wimp, Jesse J., Kirksville
Windmiller, Myrl E., Columbia
Winegar, Alvon C., Jefferson City
Winer, Herbert J., Kansas City
Winkelman, Esther B., Kansas City
Winn, George W., Boonville
Winokur, George, St. Louis
Winston, Bernard H., Kansas City
Winter, John H., St. Louis
Winter, Tyrus D., St. Louis
Winterer, Roland A., St. Louis
Winters, Kathleen, St. Louis
Wipfler, Earl J. Jr., St. Charles
Wippo, Edgar W., St. Louis
Wirthlin, Edward H., St. Louis
Wise, George W., Kansas City
Wise, Gordon F., Springfield
Wissmath, Frank S., Clayton
Wissner, Seth, St. Louis
Withers, Orval R., Kansas City
Withrow, John B., Kansas City
Witt, Clyde M., St. Louis
Witt, Frederick W., St. Louis
Wittgen, Edward M., St. Louis
Wittler, Harry A., Brentwood
Wittmer, S. C., Springfield
Wolcott, Lester E., Columbia
Wolf, Jack W., Kansas City
Wolfe, Edward, Topeka, Kan.
(Member St. Louis Medical Society)
Wolfe, Harold D., St. Louis
Wolff, Paul G., Cape Girardeau
Woltzen, Simon W., Clinton
Wommack, Fred L., Crane
Wood, Bennett R., St. Louis
Wood, George F., Fulton
Wood, George H., Carthage
Wood, James A., Clayton
Wood, William W., Springfield
Woods, Harold V., Blue Springs
Woods, Ralph E., Clayton
Woods, Walton C., Kansas City
Woodward, William W., Independence
Wooldridge, Bart F., Joplin
Wooldridge, W. E., Springfield
Woolf, Ralph B., St. Louis
Woolsey, Robert M., St. Louis
Word, Parker H., St. Louis
Workman, Charles E., Kansas City
Workman, George M., Hermann
Worley, Charles A., Sweet Springs
Wortmann, Robert F., Kansas City
Wotawa, William J., St. Louis
Wray, Rolla B., Nevada
Wright, John L., Poplar Bluff
Wright, Robert P., Kansas City
Wu, William Q., Kansas City
Wulff, George J. L. Jr., St. Louis
Wurr, Dieter, St. Louis
Wurster, W. Joel, Kansas City
Wyatt, Lois C., Kirkwood

Y

Yaeger, Gerald A., St. Charles
Yancey, Daniel L., Springfield
Yanow, Mitchell, St. Louis
Yates, J. Lewis, Mount Vernon
Yohe, Ruth M., Kansas City
Yore, Richard W., St. Louis
Yoskit, Harry, Festus
Young, Calvin C. Jr., Joplin
Young, James E., Kansas City
Young, Jesse W., Kansas City, Kan.
(Member Jackson County Medical Society)
Young, John S., St. Louis
Young, Paul R., Kansas City
Young, Robert B., Rolla
Young, Robert H., Moberly
Younge, Walter A., St. Louis

Younger, Anita, St. Louis
Younger, Ernest, St. Louis
Yuan, Louis S. K., St. Louis

Z

Zacharias, David L., Kansas City
Zahn, Robert L., Springfield
Zahorsky, Theodore S., St. Louis
Zahrt, Frank H., Princeton
Zeffren, Joel L., St. Louis
Zeinert, Oliver B., St. Louis
Zellermayer, Jacob, Kansas City
Zentay, Paul J., St. Louis
Ziegelmeyer, John S., St. Louis
Ziegler, Allen M., Holden
Ziegler, Anthony Jr., Vandalia
Ziegler, Dewey K., Kansas City
Zillgitt, George H., St. Louis
Zimmerman, Herbert B., Olivette
Zimmerman, Joseph A., Kennett
Zingale, Frank G., St. Louis
Zink, Oscar C., St. Louis
Zuber, Harold V., Kansas City
Zuckner, Jack, St. Louis
Zwart, Claude H., St. Louis
Zwirn, Benjamin H., St. Louis

List of Members by County Societies

ADAIR COUNTY
(North Central Counties Medical Society)

ANDREW COUNTY MEDICAL SOCIETY

Baker, Warren C., Savannah
Kelley, Gilbert B., Savannah
Kelley, Ralph R., Savannah
Long, Forrest C., Savannah
Wilson, Virgil R., Rosendale

ATCHISON COUNTY
(Nodaway-Holt-Atchison-Gentry-Worth Counties Medical Society)

AUDRAIN COUNTY MEDICAL SOCIETY
(Mexico)

Bradley, William W., Farber
Coil, Paul E., Mexico
Davis, Leonard L. Jr., 1415 S. Morris St.
Dwyer, Thomas L., 119 E. Love St.
Ector, Henry J., 419 Agricultural St.
Epple, Kathryn C., 502 E. Monroe St.
Epple, Lawrence K., 502 E. Monroe St.
Gantt, Ernest S. Jr., 105 W. Monroe St.
Garcia, Charles L., Mexico
Jolly, Benjamin N., 112 N. Clark Ave.
Jolly, William H., 112 N. Clark Ave.
Kallenbach, G. P., 321 N. Washington St.
Lankford, Harold D., 117 E. Monroe St.
O'Brien, Harry F., Mexico
Rodes, Ned D., Mexico
Rouse, David M., 223 W. Jackson St.
Shaw, Gordon, Audrain Hospital
Wallace, Edgar S., 221 W. Jackson St.
Williams, Robert S., Kemper Bldg.
Ziegler, Anthony Jr., Vandalia

BARRY COUNTY
(Ozarks Medical Society)

BARTON-DADE COUNTY MEDICAL SOCIETY

Arnold, Herbert M., Lamar
Bauer, Harold A., Lockwood
Bickel, Vern T., Lamar
Cain, Alvin R., Lamar
Carroll, Thomas W., Lamar
Cowan, Watt O., Greenfield
Guldner, Edmond, Lamar
McNeel, Lee A. Jr., Greenfield

BATES COUNTY
(West Central Missouri Medical Society)

BENTON COUNTY MEDICAL SOCIETY

Logan, James A., Warsaw

BOLLINGER COUNTY
(Unorganized)

BOONE COUNTY MEDICAL SOCIETY
(Columbia)

Allen, Joseph E., Professional Bldg.
Allen, William C., 2401 Highland Drive
Almond, Carl H., 807 Stadium Road
Anast, Constantine S., 700 Thilly Ave.
Anderson, Philip C., 807 Stadium Road
Asel, Norman D., 807 Stadium Road
Austin, George N., 807 Stadium Road
Baker, James M., 16 S. 10th St.
Battersby, Richard S., Candle Light Lodge
Baue, Arthur E., 807 Stadium Road
Bingham, Hal G., 807 Stadium Road
Black, Samuel P. W., 300 S. Glenwood St.
Bregant, Robert E., 6 West Drive
Brooke, Clement E., 901 Edgewood St.
Brukardt, Diane, 807 Stadium Road
Bruner, Claude R., Professional Bldg.
Buesseler, John A., 807 Stadium Road
Bumgarner, James E., 1504 E. Broadway
Bumgarner, Roger W., Route 1
Burns, Thomas W., 1009 S. Providence Road
Capps, Eugene C., 807 Stadium Road
Chalkley, Judson I., Boone County Hospital
Chiasson, E. Chaille, Guitar Bldg.
Cochran, Donald Q., 807 Stadium Road
Cooper, Maurice E., 1000 Wayne Road
Cope, James C., 1504 E. Broadway
Darnell, Thomas F. B., Doctors Clinic Bldg.
Davenport, James F., 807 Stadium Road
Denninghoff, James C., Stephens Bldg.
Dexheimer, Frank R., Professional Bldg.
Dietrich, Karl D., Professional Bldg.
Eggers, George W. N. Jr., 807 Stadium Road
Evans, Alden M., Ellis Fischel State Cancer Hospital
Froelich, Robert E., 807 Stadium Road
Fuchs, George J. Jr., 1026 Hickory Hill Drive
Galeota, William R., 807 Stadium Road
Garrett, Glen H., Professional Bldg.
Gaunt, William D., 807 Stadium Road
Hall, David G., 807 Stadium Road
Hanlon, Russell C., 807 Stadium Road
Hardwicke, Henry M., Division of Health, Jefferson City
Harkness, Thomas T., 807 Stadium Road
Hemenway, William G., 807 Stadium Road
Jackson, Robert L., 807 Stadium Road
Johnson, Richard E., Boone County Hospital
Keats, Theodore E., 1110 Lakeshore Drive
Keown, Kenneth K., 807 Stadium Road
Kubin, Milford T., Ellis Fischel State Cancer Hospital
Lachance, Leopold, Centralia
Ladenson, Roland P., 16 S. 10th St.
Lamke, Charles M., 545 Beach Drive, Ocean Springs, Miss.
Landor, John H., 807 Stadium Road
Leech, Charles A., 1504 E. Broadway
Lewis, Ray B., 2012 Valley View Drive
Lodwick, Gwilym S., 208 Ridgeley Road
Logue, John T., 1504 E. Broadway
Lowney, John F., 807 Stadium Road
Lucas, Fred V., 807 Stadium Road
McElroy, Glenn L., 909 University Ave.
Mackenzie, James W., 807 Stadium Road
Marienfeld, Carl J., 807 Stadium Road
Martt, Jack M., 807 Stadium Road
Matovich, Violet B., 807 Stadium Road
Mayer, William D., 1000 Lakeshore Drive
Miller, Leroy J., Guitar Bldg.
Mitchell, Franklin L., 810 Greenwood Court
Modlin, John J., 706 Thilly Ave.
Moranville, Benedict A., 1504 E. Broadway
Neal, M. Pinson, 807 Stadium Road
Overholser, Milton D., 807 Stadium Road
Payne, John W., Professional Bldg.
Pickard, Clarence M., 909 University Ave.
Pingelton, William B., 1006 Cherry St.
Plumlee, John E., 807 Stadium Road
Porterfield, John F., 80 East Drive
Rall, Kenneth L., 807 Stadium Road
Ransdell, James F., 4440 Rustic Drive, Carmichael, Calif.
Ray, C. Thorpe, 807 Stadium Road
Ridings, Gus R., 810 Yale Ave.
Roark, Glenn E., 807 Stadium Road
Rodgers, Elrie P., Box 157
Ross, Gilbert Jr., 807 Stadium Road
Sala, Jose M., Ellis Fischel State Cancer Hospital
Scheuber, Charles, 1504 E. Broadway
Schewe, Elmer J Jr., 1232 Sunset Drive
Schwartz, John T., 807 Stadium Road
See, William B., Professional Bldg.
Sheppard, Lee C. Jr., 2776 Worden St., San Diego, Calif.
Sights, Warren P. Jr., 807 Stadium Road
Simpson, Lloyd, 503 Stewart Road
Smith, Grafton A., 917 Crestland Ave.
Smith, Jason N. Jr., 701 West Blvd., S.
Smith, Joe R., Professional Bldg.
Spratt, John S. Jr., 204 Leslie Lane
Spurgeon, Milo J., 404 Edgewood Ave.
Stephenson, Hugh E. Jr., 807 Stadium Road
Stewart, William J., 909 University Ave.
Thomas, Horace E., 1504 E. Broadway
Thompson, Ian M., 807 Stadium Road
Tinsley, John C. Jr., 16 S. 10th St.
Van Peenen, Hubert J., 807 Stadium Road
Waggoner, Charles M., Professional Bldg.
Walters, John H., Guitar Bldg.
Walters, Laura, Guitar Bldg.
Ward, Robert L., Centralia
Washington, Edward L., 1504 E. Broadway
Weiss, James M. A., 807 Stadium Road
Wiggins, Roland L., 201 N. 3rd St.
Wilson, George P., Professional Bldg.
Wilson, Vernon E., 807 Stadium Road
Windmiller, Myrl E., 1504 E. Broadway
Wolcott, Lester E., 109 Russell Blvd.

BUCHANAN COUNTY MEDICAL SOCIETY
(St. Joseph)

Allaman, John M., 439 Acacia Drive, Sarasota, Fla.
Ames, Mary B., 2318 Lovers Lane
Ames, William H., 902 Edmond St.
Augustine, Robert W., 902 Edmond St.
Bascom, Charles H., State Hospital No. 2
Beck, Paul M., Kirkpatrick Bldg.
Benson, Scott C., 324 N. 6th St.
Berney, Francis J., 1402 Faraon St.
Boteler, George M., 422 N. 7th St.
Bristow, Robert B., Physicians & Surgeons Bldg.
Bryant, Sydney L., 902 Edmond St.
Butler, E. F., 902 Edmond St.
Carpenter, George T., 902 Edmond St.
Christ, Martin H., 6106 King Hill Ave.
Craig, Owen W. D., Kirkpatrick Bldg.
Craig, Richard O., Kirkpatrick Bldg.
Curran, Herbert A., St. Joseph
Day, Maxwell, Schneider Bldg.
Denton, Jimmy E., 2907 Sherman Ave.
DuMont, Clement C., 1905 Francis St.
Ferguson, Luther J., 2907 Francis St.
Fisher, Joseph L., 7th & Jule Sts.
Forgrave, John R., 420 N. 8th St.
Forgrave, Leon P., 420 N. 8th St.
Forman, George W., P. O. Box 830
Fuson, Levi H., Kirkpatrick Bldg.
Grant, Claude S., 1302 Faraon St.
Greenberg, Charles, 10669 Rochester Ave., Los Angeles, Calif.
Grimes, Manning E., Kirkpatrick Bldg.
Handler, Eric, Physicians & Surgeons Bldg.
Harner, Casper G., 902 Edmond St.
Hayes, Paul W., 902 Edmond St.
Herman, Allen I., Physicians & Surgeons Bldg.
Howden, Thomas L., Kirkpatrick Bldg.
Hughes, Judson M., Kirkpatrick Bldg.
Hunt, William J., 2600 Pacific St.
Ide, Lucien W., P. O. Box 830
Kieber, Robert W., Kirkpatrick Bldg.
Kline, Edmund W., Kirkpatrick Bldg.
Knepper, Paul A., P. O. Box 830
Knoke, Frederick W. Jr., 3425 Beck Road
Kulowski, Jacob, 1402 Faraon St.
Lee, Carleton H., 1402 Faraon St.
McDaniel, John R., 902 Edmond St.
McDonald, Wilbur P., 301 N. 8th St.
Maginn, Richard L., 223 N. 7th St.
Martin, John N., Physicians & Surgeons Bldg.
Meluney, Solomon E., Kirkpatrick Bldg.
Minton, Robert S., Corby Bldg.
Moen, Berwyn H., 902 Edmond St.
Morse, Marvin, 2702 Faraon St.
Mothershead, John L., 2603 Frederick Ave.
Muench, Albert H., Physicians & Surgeons Bldg.
Mundy, Homer F., 2801 Sacramento Ave.
Nelson, Fred L., 902 Edmond St.
Ness, Carl K., 902 Edmond St.
O'Connor, William B., Kirkpatrick Bldg.
Petersen, Harold E., 2401 Frederick Ave.
Pettit, Manson B., Box 263
Pfeffer, Robert I., 1915 N. 29th St.
Pifer, Lawrence H., 1302 Faraon St.
Potter, Caryl A. Jr., Physicians & Surgeons Bldg.
Potter, Thompson E., 731 Faraon St.
Redmond, William, Corby Bldg.
Riddell, Richard V., 902 Edmond St.
Rogers, John T., 2502 Ashland Ave.
Rosenthal, Irwin I., 2715 Union Ave.
Rost, William B., 2221 N.W. Extension Blvd.
Ryan, John H., 301 N. 8th St.
Senne, Herbert C., 223 N. 7th St.
Senor, Samuel E., 722 Francis St.
Shevlin, Charles F., 902 Edmond St.
Sklenar, Donald E., Physicians & Surgeons Bldg.
Smith, Clifton, 2821 Ashland Ave.
Stacy, Winton T., 1215 N. 24th St.
Stallard, Donald J., 902 Edmond St.
Tadlock, Baxter W., 316 W. Noyes St.
Tahir, Mohammad, Box 66, Wyatt Park
Thomas, Forrest, State Hospital No. 2
Thompson, F. Gregg Jr., P. O. Box 830

Thompson, F. Cregg III, 902 Edmond St.
Wadlow, Ernest E., Kirkpatrick Bldg.
Waggoner, Sharon E., 301 Illinois Ave.
Wallace, Hilen K., Route 3
Warres, Herbert L., 1636 Glenstone St., Springfield
Weed, Randal W., 702 Jule St.
Whitsell, Ora E., 824 Edmond St.
Willman, Charles R., Kirkpatrick Bldg.
Willumsen, Henry C., 902 Edmond St.

BUTLER-WAYNE-RIPLEY COUNTY MEDICAL SOCIETY

(Poplar Bluff)

Barbour, Marvin R., Kneibert Clinic
Beecher, Sheldon B., 1517 Rosedale Ave.
Biggs, Fred J. Jr., Kneibert Clinic
Boone, Richard, 11009 92nd Ave. N., Largo, Fla.
Brandon, Walter L., P. O. Box 407
Brookreson, Alton F., 321 Oak St.
Burcham, Tom R. Jr., Route 1, Box 90A, Farmington
Caldwell, Fred, Kneibert Clinic
Canlas, Emilio M., 705 Pine Blvd.
Cheatham, C. Phil, 2307 Earl St.
Clay, Hampson S., 218 N. Broadway
Cline, Harold H., Piedmont
Dinelli, Frank E., 215 Oak St.
Engelhardt, Robert C., Kneibert Clinic
Gernstetter, Sangwill L., P. O. Box 473
Hansbrough, Eugene T., 623 Pine Blvd.
Harwell, J. Lester, 10 Plaza Apartments, St. Louis
Henrickson, Hardin O., 215 Oak St.
Johnson, Frank C., Doniphan
Kneibert, Fred L., Kneibert Clinic
Leroux, Gene, Doniphan
Loughead, John R., West Maude St.
McLain, Bobby M., 724 Cynthia St.
McPheeters, James W. Sr., 330 N. 2nd St.
Macauley, Bernard J., 215 Oak St.
Markel, Arthur D., Kneibert Clinic
May, Albert L. Jr., 330 N. 2nd St.
Miller, David V., Kneibert Clinic
Moore, Dan B., 1408 Meadowbrook Ave.
Parker, Arthur C. Jr., Kneibert Clinic
Post, Cyril A., 123 S. Broadway
Ripley, C. E., 623 Pine Blvd.
Robertson, William D., Poplar Bluff
Ruff, T. Eugene, Kneibert Clinic
Tapp, Ernest M., 1401 Lurlyn Road
Turner, James H., 217 Oak St.
Turner, William F., 217 Oak St.
Willis, Norman E., 218 N. Broadway
Wright, John L., 320 N. 2nd St.

CALDWELL COUNTY

(Grand River Medical Society)

CALLAWAY COUNTY MEDICAL SOCIETY

(Fulton)

Brown, John J., 101 E. 6th St.
Cremer, William J., State Hospital No. 1
Crews, Robert N., 612 Court St.
Durst, Henry, 610 Court St.
Freund, Harold G., State Hospital No. 1
Gish, Rutledge, 5 E. 5th St.
Groce, George, 607 Court St.
Hill, James E., 607 Court St.
Hunter, James R., Webster Groves
Jackson, Elmer C., State Hospital No. 1
Jackson, Vernon B., 600 E. 2nd St.
Kepler, Earl C., State Hospital No. 1
Ritterbusch, James K., State Hospital No. 1
Robertson, Robert C., State Hospital No. 1
Rusk, Earl M., Camdenton
Sydow, Henry A., 1014 Chippewa Drive
Tellez, Edward R., 207 Lynn Ave.
Wood, George F., 614 Market St.

CAMDEN COUNTY

Garrison, T. W., Camdenton
(Member Mid-Missouri County Medical Society)
Holley, Donald B., Camdenton
(Member Mid-Missouri County Medical Society)
Rusk, Earl M., Camdenton
(Member Callaway County Medical Society)
Wayland, Thomas A., Camdenton
(Member Cole County Medical Socety)

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

(Cape Girardeau)

Alyea, J. O., 1873 Marietta St.
Ashley, Hugh V., 234 N. Sprigg St.
Ashley, Hugh Jr., 234 N. Sprigg St.
Bahn, Charles F., 1902 W. Broadway
Barnes, Seth S., 1854 Broadway
Blankenship, Dale M., 1930 Broadway
Campbell, Edward D., 937 Broadway
Chapman, Jean A., 1902 W. Broadway
Cochran, Jo R., 24 N. Sprigg St.
Crites, Edward, Sedgewickville
Crowe, John T., 937 Broadway
Elrod, Dennis B., 1912 Broadway
Estes, Albert M., 714 Broadway
Ford, Walter W., Cordonville
Hall, Frank W., 1912 Broadway
Hecker, Joseph E., Jackson
Herbert, Charles T., 824 Good Hope St.
Holcomb, John K., 24 N. Sprigg St.
Hoxworth, Gerald M., 24 N. Sprigg St.
Jaeger, Joseph N., Jackson
Johnson, Earl W., 937 Broadway
Juden, Alexander G., 4 S. Spanish St.
Jung, J. Marshall, Illmo
Kasten, Melvin C., 1453 Themis St.
Keim, John H., 230 N. Sprigg St.
Kinder, James A., 937 Broadway
Kratz, Paul E., 1912 Broadway
Lovinggood, Thomas A., 649 Sylvan Lane
McDonald, Eugene F., Jackson
McGinty, Charles P., 1912 Broadway
Magaletta, George E., 937 Broadway
Nunnelly, Cordon M., 1924 Broadway
Nussbaum, Paul B., 1858 Broadway
Oehler, William F., 234 N. Middle St.
Otto, Thomas G., 1912 Broadway
Parsons, D. LeRoy, 24 N. Sprigg St.
Rapp, Horald B., 1011 N. Henderson St.
Rawlins, Fred E., 1607 Berthing Ave.
Reynolds, Carland A., 826 Themis St.
Ridings, Harold D., 937 Broadway
Ritter, Raymond A., 1912 Broadway
Seabaugh, Dayton I. L., Jackson
Seabaugh, L. R., 219 N. Pacific St.
Seabaugh, Oda L., 24 N. Sprigg St.
Seabaugh, William O. L., 24 N. Sprigg St.
Shoss, Milton, 937 Broadway
Tygett, Glenn J., 215 N. Sprigg St.
Tygett, Joseph N., 1912 Broadway
Weeks, George R., 1728 Bessie Ave.
Williams, W. A. Jr., 1609 Memphis St., Fort Smith, Ark.
Wilson, Charles F., 714 Broadway
Wolff, Paul C., 1819 Broadway

CARROLL COUNTY

(Grand River Medical Society)

CARTER-SHANNON COUNTY MEDICAL SOCIETY

Rollins, H. D., Winona

CASS COUNTY

(West Central Missouri Medical Society)

CEDAR COUNTY

(West Central Missouri Medical Society)

CHARITON-MACON-MONROE-RANDOLPH COUNTY MEDICAL SOCIETY

Arnold, Eugene L., Veterans Administration Hospital, Jefferson Barracks
Baker, Josephine D., Moberly
Barnett, Floyd A., Paris
Campbell, James E., Macon
Chute, W. Deward, Moberly
Cohrs, Clarence C., Moberly
Collins, Gretchen D., Macon
Dreyer, Philip V., Huntsville
Eggleston, Donald E., Macon
Fleming, J. Will Jr., Moberly
Fleming, Thomas S., Moberly
Harms, Florian L., Salisbury
Hasson, Robert, Moberly
Huber, Lasley E., Moberly
Miller, D. Herbert, 4410 Denison St., Muskogee, Okla.
Miller, Howard S., Macon
Ragsdale, George M., Paris
Rice, Grover C., Brunswick
Rinker, Carl T. Jr., Macon
Rowlette, Avery P., Moberly
Smith, Carl C., Moberly
Streetor, Roderick D., 1332 Blackstone Ave., St. Louis
Stuart, Daniel D., Brunswick
Szymanski, Stanley R., Moberly
Young, Robert H., Moberly

CHRISTIAN COUNTY

(Ozarks Medical Society)

CLARK COUNTY

(Lewis-Clark-Scotland County Medical Society)

CLAY COUNTY MEDICAL SOCIETY

Adams, Howard D., 114 N. Water St., Liberty
Allain, James J., 2022 Swift St., N. Kansas City
Allan, James R., 110 E. Broadway, Excelsior Springs
Allen, S. Lloyd, Box 404B, Parkville
Balhuizen, John, 2730 S. Mall, Kansas City
Bates, George C., 2730 S. Mall, Kansas City
Boone, Daniel S., 5800 N. Grand Ave., Kansas City
Bowles, Richard P., 112 N. Water St., Liberty
Bruce, Paul C., 115 S. Titus Ave., Excelsior Springs
Burke, E. K., 5140 Antioch Road, Kansas City
Chastain, Maurice W., 2016 Swift Ave., N. Kansas City
Chiles, David R., Box 238, Smithville
Cox, William L., 101 W. Kansas St., Liberty
Dunham, Robert H., 2025 Swift Ave., N. Kansas City
Dwyer, Reinhardt D., 1806 Swift Ave., N. Kansas City
Edwards, Theodore F., 329 Armour Blvd., N. Kansas City
Fakhoury, Donald A., 4030 N. Oak St., Kansas City
Fischer, Edward H., 306 E. 21st Ave., N. Kansas City
Fowler, I. Charles, 2025 Swift Ave., N. Kansas City
Calbol, Harley, Box 950, Excelsior Springs
Gauer, Robert J., 2730 S. Mall, Kansas City
Goodson, William H., 12 N. Main St., Liberty
Hayes, Lawrence L., 8400 N. Oak Trafficway, Kansas City
Hendren, Clenn W., 114 N. Water St., Liberty
Hobbs, Earl B., Smithville
Hodge, Robert H., 329 Armour Road, N. Kansas City
Houck, Russell M., Veterans Administration Hospital, Kecoughtan, Va.
Jones, Charles E., 101 Kansas Ave., Liberty
King, Phillip E., 107 W. Spring St., Excelsior Springs
Knox, Earl R., Rialto Bldg., Kansas City
Kratz, Frederick W., 1927 W. 152 Highway, Liberty
Kuenzi, Donald E., 8400 N. Oak St., Kansas City
Langhus, Melvin O., 104 W. Englewood Road, N. Kansas City
Love, Drury M., 613 E. 66th St., Kansas City
McCormick, James E., 4030 N. Oak St., Kansas City
McCracken, Samuel R., 107 W. Spring St., Excelsior Springs
Mullins, Bernard L., 1806 Swift Ave., N. Kansas City
Musgrave, David E., Excelsior Springs
Parker, Robert H., 2005 Fayette St., N. Kansas City
Pate, Otho S., Pioneer Bldg., N. Kansas City
Perry, Lawrence L. Jr., 3 Gillespie Place, Walker AFB, Roswell, N. M.
Petersen, Eugene G., 6708 N. Oak St., Kansas City
Pileggi, Felix A., 307 E. 55th Ter., N. Kansas City
Porter, Russell C., 831 N. Camino Miramonte, Tucson, Ariz.

Revare, Paul, 2025 Swift Ave., N. Kansas City
Richardson, William D., 3209 Regent St., E. St. Louis, Ill.
Roberts, L. Marvin, 5140 Antioch Road, Kansas City
Robichaux, Eugene B., 116 South St., Excelsior Springs
Sanders, George E., 116 South St., Excelsior Springs
Sawyer, Floyd E., 1900 Swift Ave., N. Kansas City
Schertz, Truman B., 2022 Swift Ave., N. Kansas City
Spelman, Archibald E., Smithville
Sportsman, Weldon L., 6309 N. Grand Ave., Kansas City
Vescovo, Paul C., Smithville
Waterman, Franklin M., Liberty
Werner, Dean F., 2025 Swift Ave., N. Kansas City
Werner, Franklin C., 5140 Antioch Road, Kansas City
Williams, John M., 32 S. Main St., Liberty
Willoughby, James W., 32 S. Main St., Liberty
Withrow, John B., 5140 Antioch Road, Kansas City
Zacharias, David L., 6708 N. Oak St., Kansas City

CLINTON COUNTY MEDICAL SOCIETY

Kimes, Ira D., Cameron
Luckenbill, Paul T., Plattsburg
Mabrey, John P., Plattsburg
Netherton, George F., Cameron
Spalding, Wilber B., Plattsburg

COLE COUNTY MEDICAL SOCIETY

(Jefferson City)

Belden, Edgar A., State Office Bldg.
Belinson, Louis, State Office Bldg.
Bowe, Edwin E., 401 N. Ridgway St.
Bruce, James G., Central Missouri Trust Bldg.
Clark, Kendall A., 515 E. High St.
Cox, William A., 105 E. High St.
Doyle, Matthew J., 515 E. High St.
Enloe, Lawrence D., Trust Bldg.
Exon, C. Stuart, 515 E. High St.
Fullgrabe, E. A., State Office Bldg.
Garner, Lynn M., State Divison of Health
Gordon, James S., 515 E. High St.
Guhleman, Henry V. Jr., Medical Arts Bldg.
Gurnee, Landon H., 515 E. High St.
Handler, Fred P., 95 E. Circle Drive
Kanagowa, Hajime H., Medical Arts Bldg.
Kelly, Marshall W., 507 E. High St.
Klebba, Larry B., P. O. Box 403
Leslie, J. Paul, 933 Fairmount Blvd.
Leslie, James T., 4612 Hanford Lane, Louisville, Ky.
Leslie, James T. Jr., 214 Jackson St.
Loyd, Earl L., 515 E. High St.
McHaney, John W., 606 E. High St.
McKnelly, William V., 507 E. High St.
Mansur, Edward E., R. 2, Box 629D, Stuart, Fla.
Matthews, John I., 302 Bolivar St.
Maxey, Hugh W., Box 236
Meier, Francis X., 1913 Haysilton Drive
Meinershagen, Charles W., 138 Forest Place
Ossman, Julian A., 2505 W. Main St.
Richardson, Raginald G., 421 Lafayette St.
Russell, Joseph P., Divison of Health
Sanders, J. S., 515 E. High St.
Sennott, John S., 515 E. High St.
Shull, George D., 521 E. High St.
Stauffer, Harry B., Central Trust Bldg.
Stephan, August P., 98 W. Circle Drive
Stricker, Harold C., 515 E. High St.
Sugarbaker, Everett D., 503 E. High St.
Summers, Joseph S. Jr., 515 E. High St.
Tanner, Robert H., 1608 Greenberry Road
Taylor, Leon A., 129 E. High St.
Tietjen, Frederick, O., 213 Jackson St.
Watts, Byron E., 515 E. High St.
Wayland, Thomas A., Camdenton
Winegar, Alvon C., 515 E. High St.

COOPER COUNTY MEDICAL SOCIETY

(Boonville)

Abele, William A., 329 Main St.
Avery, Willard B., 329 Main St.
Beckett, Theodore C., 317 Main St.
Boley, James O., 3200 E. Meyer Blvd., Kansas City
Chamberlain, Gilbert L., 315 Center Ave.
Diekroeger, Manuel L., R. D. 1
Friedrichs, Vernon D., Pilot Grove
Hata, Daikichi, 329 Main St.
Humphreys, Edward T., 329 Main St.
Nolen, Jack R., 1143 Walnut St., Gadsden, Ala.
Stuart, Byron M., 329 Main St.
Winn, George W., 329 Main St.

CRAWFORD COUNTY

(Mid-Missouri County Medical Society)

DADE COUNTY

(Barton-Dade County Medical Society)

DALLAS-HICKORY-POLK COUNTY MEDICAL SOCIETY

Barnett, Charles H., Bolivar
Brooks, John M., 840 S. Pickwick St., Springfield
Griffin, Mary E. P., Buffalo
Griffin, Olin A. Jr., Buffalo
Harrell, Henry J., Morrisville
Koon, Ben H., Bolivar
McCraw, Doyle C., Bolivar
Robinson, George G., Humansville

DAVIESS COUNTY

(Grand River Medical Society)

DEKALB COUNTY

(Grand River Medical Society)

DENT COUNTY

(Mid-Missouri County Medical Society)

DOUGLAS COUNTY

(South Central Counties Medical Society)

DUNKLIN COUNTY MEDICAL SOCIETY

Baldwin, Paul, Kennett
Beal, Homer, Malden
Benson, Leo J. Jr., Kennett
Cash, Charles R., Kennett
Croom, Dorwyn W., Malden
Crow, Asa A., Cardwell
Dempsey, Davis T., Kennett
Dunmire, George Q., Kennett
English, Wallace D., Cardwell
Hopkins, Florian G., Gideon
Joffe, Irwin, 628 W. Garland, Paragould, Ark.
Miltenberger, Paul C., Kennett
Morehead, William E., Malden
Palenske, Robert L., Hornersville
Peck, Chester R. Jr., Kennett
Rutledge, William J., Campbell
Spence, Elbert L., Kennett
Swafford, Owen J., Senath
Tarver, Quinton, Kennett
Williams, Charles S., Malden
Wilson, Loys C., Kennett
Zimmerman, Joseph A., Kennett

FRANKLIN-GASCONADE-WARREN COUNTY MEDICAL SOCIETY

Bonney, Samuel C., Washington
Bozzo, Raymond J., Washington
Brenner, Paul A., Owensville
Crawford, Robert M., Sullivan
de la Torre, John J., Sullivan
Denny, Hubert M., Union
Eisenmann, Benjamin P., New Haven
Eyermann, H. Walter, Warrenton
Giem, Ross N., Sullivan
Heutel, Lee B., Union
Hoelscher, Harold F., Warrenton
Johnson, Grover C., Marthasville
Mays, Frank G., Washington
Muench, Ludwig O., Washington
Pearl, John F., St. Clair
Post, John P., Washington
Richardson, George A., Union
Richardson, William R., Union
Royse, Roy P., Sullivan
Ryan, John B., Washington
Schmidt, Charles A., Gerald
Schmidt, Herbert H., Washington
Shaw, Carvel T., Hermann
Shea, James G., Gerald
Steinbeck, Herbert D., Union
Strehlman, Benjamin G., Union
Wepprich, Michael S., Washington
Workman, George M., Hermann

GASCONADE COUNTY

(Franklin-Gasconade-Warren County Medical Society)

GENTRY COUNTY

(Nodaway-Holt-Atchison-Gentry-Worth County Medical Society)

GRAND RIVER MEDICAL SOCIETY

(Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb Counties)

Allen, Erroll W., Carrollton
Bales, Eugene L., Carrollton
Bohnsack, Ralph W., Brookfield
Booth, Herbert R., Hamilton
Brennan, Raymond J., Chillicothe
Brewer, Lake, Ridgeway
Brownfield, Samuel T., Brookfield
Broyles, Watkins A., Bethany
Carpenter, George W., Chillicothe
Carter, Howard, Hamilton
Clark, Chester L., Trenton
Conrad, Joseph, Chillicothe
Cullers, Charles H., Trenton
Daley, Frank R., Hamilton
Dixon, John R., Brookfield
Dowell, Donald M., Chillicothe
Dowell, J. Larry, Pattonsburg
Duffy, Oliver F., Trenton
Ellsworth, Willard, Cainsville
Fair, William L., Chillicothe
Fuson, William A., Trenton
Gale, Joseph F., Chillicothe
Gary, George, Marceline
Gearhart, Merriam, Bethany
Haskell, Ralph E., Norborne
Horner, Glennon A., Marceline
Howell, Billy D., Brookfield
Kimberlin, Herbert C., Trenton
LaSalle, Michael W., 1601 E. 47th Ter., Kansas City
McArtor, Thomas R., Browning
Magill, Joseph S., Milan
Mairs, Edgar J., Trenton
Mandler, George, Chillicothe
Nixon, Edward E., Gallatin
Perry, John M., Princeton
Platz, John H., Carrollton
Smith, Robert W., Marceline
Staton, R. Hamilton, Carrollton
Sutherland, Gladys P., Bethany
Sweiger, James H., Maysville
Thompson, Emma A. B., Dumas Apts., Columbia
Titmarsh, J. B. Jr., Bethany
Vandiver, Virgil D., Chillicothe
Vinyard, Jack L., Carrollton
Wilson, Fred K., Winston
Zahrt, Frank H., Princeton

GREENE COUNTY MEDICAL SOCIETY

(Springfield)

Allen, Jerry H., 1211 S. Glenstone St.
Allison, James B., 600 S. Glenstone St.
Anthony, Dallas D., Professional Bldg.
Ash, Charles J., 743 Riverside Drive
Ashley, Thomas E., 1211 S. Glenstone St.
Atkinson, Thomas E. Jr., 609 E. Cherry St.
Auner, Cecil R., 600 S. Glenstone St.
Baldwin, Richard, 600 S. Glenstone St.
Bonebrake, MacDonald, Professional Bldg.
Box, Ernest M., 412 E. Commercial St.
Brown, Alex L., 1636 S. Glenstone St.
Brown, James T., 1653 S. National St.
Brown, Lyman D., 311 College St.
Burkey, Jordan W., Professional Bldg.
Busiek, Erwin F., Professional Bldg.
Busiek, Paul J., Professional Bldg.

Busiek, Urban J., Professional Bldg.
Callaway, Guy D., 1155 S. Delaware St.
Callaway, Guy D. Jr., 1211 S. Glenstone St.
Christy, Raymond A. Jr., 1211 S. Glenstone St.
Clarke, Michael J., 1636 S. Glenstone St.
Clary, William F., 1636 S. Glenstone St.
Clawson, James W., Professional Bldg.
Clayton, Edgar L., Professional Bldg.
Cochran, Thomas E. Jr., 2423 Brentwood Blvd.
Coller, Frederick B., 2433 Marlan St.
Conrad, Raymond C., 609 Cherry St.
Crawford, Oral B., Professional Bldg.
Cunningham, Darral D., 1715 Boonville Ave.
Delzell, William A., McDaniel Bldg.
Dietz, M. Wendell, Burge Protestant Hospital
Dillard, Erin M., Professional Bldg.
Dills, Joseph N., 1715 Boonville Ave.
Dimond, Edgar A., 801 S. High St., Neosho
Dolan, Daniel L., Professional Bldg.
Duncan, Robert D., 1534 E. Sunshine Blvd.
Eastwood, Robert A., 1934 Rosebrier St.
Elkins, Ronald F., Professional Bldg.
Ellis, Francis J., Professional Bldg.
Evans, Ezra L. Jr., Professional Bldg.
Farthing, Fred R., 1234 E. Walnut St.
Farthing, Gene W., 1636 S. Glenstone St.
Feller, Charles E., 1523 N. Jefferson St.
Ferguson, John P. Jr., 1219 S. Clay St.
Ferrell, Thomas E. Jr., 1534 E. Sunshine Blvd.
Fessenden, Ersel M., 634 Kingsbury St.
Fitch, C. H. Max, 1711 Boonville Ave.
Focht, Ralph H., Strafford
Francis, William C., 600 S. Glenstone St.
Freeman, Hal E., 609 Cherry St.
Gentry, Merritt L., 1933 Saratoga St.
German, Walter A. Jr., 1211 S. Glenstone St.
Giddings, Frank C., Burge Protestant Hospital
Glenn, Elmer E., Cedar Point Road, Forsyth
Glynn, Robert R., 1211 S. Glenstone St.
Gorelick, David F., Professional Bldg.
Gose, Don F., 1550 E. Sunshine Blvd.
Hahn, Andrew L., Professional Bldg.
Hall, David W., 2122 Wayland Drive
Hall, Durward G., 2442 S. Fremont Ave.
Hanan, Ernest B., 724 E. Kingsbury St.
Hanss, Armand W., 600 S. Glenstone St.
Harvey, Harold D., 1531 E. Sunshine Blvd.
H'Doubler, Francis T. Jr., Professional Bldg.
H'Doubler, Peter B., 1560 S. Delaware St.
Hogeboom, George W., 3026 E. Glenwood St.
Hollis, Richard W., Professional Bldg.
Holmes, Daniel E., 600 S. Glenstone St.
Holmes, David R., 1636 S. Glenstone St.
Hoover, H. Lee Jr., 1330 E. Walnut St.
Horst, Otto C., Medical Arts Bldg.
Horton, James D., Professional Bldg.
Ivy, Henry B., 600 S. Glenstone St.
Jameson, James E. Professional Bldg.
Johnson, George A., 2734 Luster Ave.
Johnson, George L., Martin Army Hospital, Ft. Benning, Ga.
Johnson, Warford B., Professional Bldg.
Johnson, William F., Professional Bldg.
Johnston, Joseph L., 2855 Southern Hills Blvd.
Jorel, Louis E., 1500 E. Sunshine Blvd.
Key, James S., Professional Bldg.
Klingner, George M., 1630 N. Jefferson St.
Knabb, Arthur D., 1630 N. Jefferson St.
Knabb, Harris, 1630 N. Jefferson St.
Knabb, Henry F. Jr., 1630 N. Jefferson St.
Knabb, Kenneth E., 1630 N. Jefferson St.
Kolze, Vernon W., 600 S. Glenstone St.
Langston, Walter R., Professional Bldg.
Leidinger, Karl J., Republic
Lemmon, George B., 1101 E. Walnut St.
Lemmon, G. Bruce Jr., Professional Bldg.
Leslie, James F., 1715 Boonville Ave.
Litton, Lyle D., Burge Protestant Hospital
Lockhart, Charles E., Professional Bldg.
Lorenc, Ernest, Professional Bldg.
Lowe, Horace A. Jr., Medical Arts Bldg.
Lurie, Harold H., 600 S. Glenstone St.
McAlhany, Howard J., 609 Cherry St.
Maddux, William P., Professional Bldg.
Maher, Robert W., Professional Bldg.
Maple, Francis M., 1211 S. Glenstone St.
Menchetti. Don E., 1630 N. Jefferson St.
Meyer, Claude B., Route 1, Nixa
Morton, Paul C., 1508 E. Stanford St.
Moseley, F. Thomas, 2837 Lomita Court
Musick, James D., Medical Arts Bldg.
Napper, Marvin L., Professional Bldg.
Neu, Leo T. Jr., 3008 Carlisle Circle
Overend, Don S., 1211 S. Glenstone St.
Palcheff, Chris L., 1636 S. Glenstone St.
Park, William I. Jr., Professional Bldg.
Penninger, William H., 600 S. Glenstone St.
Peterson, Stanley S., 1211 S. Glenstone St.
Plumlee, William C., 600 S. Glenstone St.
Podrecca, Guido I., Professional Bldg.
Polk, John W., 609 Cherry St.
Powell, Edwin M., Professional Bldg.
Prater, Bill G., Professional Bldg.
Pruett, Paul L., Professional Bldg.
Rainwater, E. H., Professional Bldg.
Rigney, Levi M., Woodruff Bldg.
Rosen, Max, Professional Bldg.
Russell, Earl D., 1503 S. Glenstone St.
Scanlon, Robert C., 1711 Boonville St.
Schroff, Carl H., 1630 N. Jefferson St.
Schwartz, Eugene J., Professional Bldg.
Schweitzer, Fred C. Jr., Woodruff Bldg.
Sewell, Walter S., 2707 S. Marlan St.
Siceluff, Joseph G., 609 Cherry St.
Silsby, Don H., 719 S. Dollison St.
Silsby, Don J., Professional Bldg.
Silsby, Harry D., Professional Bldg.
Simpson, Albert P., 318 St. Louis St.
Simpson, Emerson L., 1630 N. Jefferson Ave.
Smith, C. Souter, 620 St. Louis St.
Smith, Harvey S., Burge Protestant Hospital
Snead, William H. Jr., Professional Bldg.
Stewart, Robert B., 600 S. Glenstone St.
Stewart, R. Wendell, Professional Bldg.
Stufflebaum, Robert E., 2248 Mirabeau St.
Sturtevant, Harwood N., Professional Bldg.
Sundstrom, Frank D., 1211 S. Glenstone St.
Tarrasch, Ernest L., 1636 S. Glenstone St.
Taylor, William E., Southwest Missouri State College
Thomasson, David D., 600 S. Glenstone St.
Tillman, Walter W. Jr., Professional Bldg.
Tombridge, Thomas L., Professional Bldg.
Trotter, W. Yates, Professional Bldg.
Tsang, John L. K., 1636 S. Glenstone St.
Turner, Glenn O., Professional Bldg.
Vail, A. Denton, Professional Bldg.
Waddell, Kenneth E., 1211 S. Glenstone St.
Wakefield, Elmer G., 1534 E. Sunshine Blvd.
Wakeman, Jasper N., 600 S. Glenstone St.
Walker, William M., Professional Bldg.
Webb, Leslie R. Jr., Professional Bldg.
White, R. Ned, Professional Bldg.
Williams, John W., 600 S. Glenstone St.
Williams, John W. Jr., Landers Bldg.
Wilson, Roy E., 1211 S. Glenstone St.
Wise, Gordon F., Professional Bldg.
Wittmer, Samuel C., 600 S. Glenstone St.
Wood, William W., 1211 S. Glenstone St.
Wooldridge, Wilfred E., Professional Bldg.
Yancey, Daniel L., 1211 S. Glenstone St.
Zahn, Robert L., Professional Bldg.

GRUNDY COUNTY
(Grand River Medical Society)

HARRISON COUNTY
(Grand River Medical Society)

HENRY COUNTY MEDICAL SOCIETY

Bradshaw, William D., Clinton
Brock, Bernard, Windsor
Hollingsworth, Ray S., Clinton
Hughes, Shelby B., Clinton
Jones, Edna M., Clinton
King, Richard H., Clinton
Smith, James O., Clinton
Smith, William J., Windsor
Thurber, Claude M., Windsor
Walker, George S., Clinton
Walker, Hugh B., Clinton
Woltzen, Simon W., Clinton

HICKORY COUNTY
(Dallas-Hickory-Polk County Medical Society)

HOLT COUNTY
(Nodaway-Holt-Atchison-Gentry-Worth County Medical Society)

HOWARD COUNTY MEDICAL SOCIETY

Bloom, William A., Fayette
Dean, Francis D., Fayette
Gardner, Joseph W., Glasgow
Leech, Maurice P., Fayette
Shaw, William J., Fayette
Shaw, William J. Jr., Fayette

HOWELL COUNTY
(South Central Counties Medical Society)

IRON COUNTY
(Mineral Area County Medical Society)

JACKSON COUNTY MEDICAL SOCIETY
(Kansas City)

Aaron, George A., 10901 Winner Road, Independence
Adelman, Arthur, 333 W. Meyer Blvd. 13
Adler, Federico, 701 E. 63rd St. 10
Agee, Loren G., 5801 E. 113th St. 34
Ahlefeld, Charles B., 215 Pershing Road 8
Aisenstadt, E. Albert, 333 W. Meyer Blvd. 13
Aks, Daniel, 751 E. 63rd St. 10
Alberg, Marvin R., R. 6, Box 323-C, Parkville
Allebach, H. K., Research Hospital 8
Allen, Robert E., 4320 Wornall Road 11
Allen, William B., 4620 Nichols Parkway 12
Alsop, Webb S. Jr., 3604 W. 53rd St., Shawnee Mission, Kan.
Altomare, Edward P., 2610 E. 63rd St. 30
Altringer, Arthur N., 305 W. 43rd St. 11
Ammatelli, Francis J., 605 E. 66th St. 31
Anderson, Raymond B., 4320 Wornall Road 11
Anderson, Richard W., 1001 Romany Road 13
Andrews, Berneil W., 4320 Wornall Road 11
Andrus, Bailey C., 4320 Wornall Road 11
Appleford, G. Burton, 3917 W. 84th St., Prairie Village, Kan.
Arms, Arnold V., 4320 Wornall Road 11
Arst, Herbert E., Smithville Clinic, Smithville
Ashman, Theodore H., Plaza Time Bldg. 12
Asher, A. Graham, Professional Bldg. 6
Atcheson, Bellefield, 6524 Overhill Road, Shawnee Mission, Kan.
Atwell, Floyd C., 4620 Nichols Parkway 12
Aull, John, 6544 Summit St. 13
Bachmann, Paul L., 1212 W. Truman Road, Independence 30
Baer, Alvin J., 751 E. 63rd St. 10
Baker, Philip J., 11440 E. 47th St. 33
Ball, James E., 1102 E. 47th St. 10
Ballard, V. Bryce, 4320 Wornall Road 11
Bare, Chester I. Jr., 10501 E. 78th Ter. 38
Barelli, Pat A., 425 E. 63rd St. 10
Barnard, John L. Jr., 4312 Nichols Parkway 11
Barnes, Robert H., 6714 Kenwood Ave. 31
Barnett, Gordon P., 751 E. 63rd St. 10
Barry, Gerald W., 3601 Troost Ave. 9
Barry, John W., 4620 Nichols Parkway 12
Barry, William B., 4600 Nichols Parkway 12
Bass, Walter R., 24th & Cherry Sts. 12
Baum, Frank E., 701 E. 63rd St. 10
Baumhardt, Edward E., 4320 Wornall Road 11
Bay, Merrill R., 1808 W. Main, Blue Springs
Becker, Richard R., 5622 Holmes St. 10
Becker, Rolfe A., 751 E. 63rd St. 10
Bell, William F., 615 W. 3rd St., Lee's Summit
Bennett, James D., 409 E. 63rd St. 10
Benoit, Hector W. Jr., 4620 Nichols Parkway 12
Berenson, Sheldon E., 4620 Nichols Parkway 12
Bergmann, Victor H., 105 Ward Parkway 12
Bernreiter, Michael, 1246 W. 63rd St. 13
Berry, Guy N., 4320 Wornall Road 11
Berry, Maxwell G., 4320 Wornall Road 11
Biggs, Harry L., 63rd & Evanston Sts. 33
Bikales, Victor W., 425 E. 63rd St. 10
Bills, Marvin L., Plaza Time Bldg. 12
Black, Don A., 6400 Prospect Ave. 32
Black, Eugene C., Professional Bldg. 6
Blim, Richard D., 4320 Wornall Road 11
Boody, Robert J., Plaza Time Bldg. 12
Bordy, Marvin D., 701 E. 63rd St. 10

Borenstine, Joseph, 7307 Holmes St. 31
Botwin, Arnold E., 701 E. 63rd St. 12
Boughnou, Harvey P., 315 Nichols Road 12
Bourke, Timothy S., 4535 Rockhill Terr. 10
Boutros, Amin, 3112 Linwood Blvd. 28
Bowser, John F., 411 Nichols Road 12
Boyd, George K., 5111 Independence Ave. 24
Bradford, John F., 4320 Wornall Road 11
Brams, Jack B., 751 E. 63rd St. 10
Braverman, Abe E., 701 E. 63rd St. 10
Brewster, Charlotte M., 4320 Wornall Road 11
Bridgens, James C., 2510 E. Linwood Blvd. 28
Brown, Adrian J., 12 E. 63rd St. 13
Brown, Irwin S., Plaza Time Bldg. 12
Brown, Robert S., 4706 Broadway 12
Broyles, Glen H., 6140 Raytown Road 33
Brumm, Lawrence W., 6400 Prospect Ave. 32
Bruner, Robert E., 912 Valentine Road 11
Brust, Carl H., 6114 Howe Drive, Mission, Kan.
Bryan, William H. Jr., 3939 Prospect Ave. 30
Buckingham, William, 3641 Locust St. 9
Buckner, Robert C., Plaza Parkway Bldg. 12
Budke, Harold A., 306 E. 12th St. 6
Buhler, Victor B., 5212 Belleview Ave. 12
Buie, Bruce R., 5801 E. 113th St. 34
Bunting, Williston P., 305 W. 43rd St. 11
Burns, Beryl I., 1510 Bass Ave., Columbia
Butcher, Robert W., 7924 Paseo Blvd. 32
Butterworth, Nelson S., 4706 Broadway 12
Byers, Philip L., 4320 Wornall Road 11
Caffrey, Raymond J., 1314 W. Red Bridge Road 14
Caldwell, John K., Argyle Bldg. 6
Callaway, Luther M., 400 E. 67th Ter. N. 18
Calovich, Emery R., 4620 Nichols Parkway 12
Campbell, Frederick B., Professional Bldg. 6
Campbell, John G., Professional Bldg. 6
Carbaugh, Glenn C., Bryant Bldg. 6
Carlson, Hjalmar E., Professional Bldg. 6
Carmichael, Francis A. Jr., 4320 Wornall Road 11
Carrier, Edson C., 315 Nichols Road 12
Caruso, Alfred A., 924 Linwood Blvd. 9
Casady, Gilbert N., 9830 Aberdeen Drive, Prairie Village, Kan.
Casebolt, Buford T., 4000 Baltimore Ave. 11
Casebolt, Milton B., 4000 Baltimore Ave. 11
Castelaw, Rush E., 3731 Locust St. 9
Cavaness, Ernest W., 1010 Neptune Drive, Encinitas, Calif.
Centner, Paul J., 2727 Main St. 8
Chambers, James Q. Jr., 4620 Nichols Parkway 12
Chandler, Robert A., 701 E. 63rd St. 10
Chapman, Arthur H., Professional Bldg. 6
Chapman, Samuel B., 6400 Prospect Ave. 32
Cheng, Alfred K., 6212 USAF Disp., Shu Linkou Air Station, APO 160, San Francisco, Calif.
Clark, Harold B., 6215 Agnes Ave. 30
Clark, Irving H., 5801 E. 113th St. 34
Chernoff. Selbert G., 4601 Independence Ave. 24
Clasen, Arthur C., 5775 Collins Ave., Miami Beach 40, Fla.
Cline, Merle A., 4126 St. John Ave. 23
Coburn, Donald F., 6400 Prospect Ave. 32
Cochrane, Joseph J., 4706 Broadway 12
Cockerell, Sanford F., 11200 Winner Road, Independence
Coffey, Ralph R., Professional Bldg. 6
Coffin, Theodore A., Professional Bldg. 6
Cohen, Harry K., 751 E. 63rd St. 10
Cohen, Hilliard, 1291 W. 72nd Ter. 14
Colglazier, Mary C., 411 Nichols Road 12
Colom, George A., 4643 Wyandotte St. 12
Connell, Evan S., Commerce Bldg. 6
Cooper, Charles S., Professional Bldg. 6
Cooper, John H., Argyle Bldg. 6
Cooper, Leo F., 8401 Roe Bldg., Shawnee Mission, Kan.
Cortner, Mary C., 701 E. 63rd St. 10
Counsell, Chester M., 708 W. 17th St. 8
Cowherd, Joseph B., 634 W. 69th Ter. 13
Cox, Kenneth E., 4320 Wornall Road 11
Crocker, Albert M., 2202 E. 31st St. 9
Crockett, James E., 4320 Wornall Road 11
Culbertson, William F., 1253 Huntington Road 13
Curran, Desmond, Federal Res. Bank Bldg. 6
Curts, Calvin J., 4706 Broadway 12
Cutcliff, Daniel J., 415 E. 66th St. 31
Dalton, Timothy T., 701 E. 63rd St. 10
Dann, David S., 701 E. 63rd St. 10
Davis, Herbert V., 4620 Nichols Parkway 12
Davis, Jack M., 9406 E. 63rd St. 33
Davis, John J., 9011 Delmar Ave., Overland Park, Kan.
Davis, Kenneth A., 209 W. 47th St. 12
Davis, Robert C., 659 W. 61st Ter. 13
Day, Cameron B., St. Luke's Hospital 11
Decker, Albert I., 4706 Broadway 12
DeMaria, Peter F., 8125 E. Gregory Blvd. 33
DeMott, John D., 411 Nichols Road 12
DeMotte, John A., 315 Nichols Road 12
Dennie, Charles C., 4320 Wornall Road 11
Deweese, Everett R., Rialto Bldg. 6
Dickson, Frank D., 4312 Nichols Parkway 11
Diveley, Rex L., 4312 Nichols Parkway 11
Dixon, Otto J., Professional Bldg. 6
Dixon, Vewiser L., 2204 E. 18th St. 27
Dlabal, Luke J., 1210 Ash Ave., Independence
Doane, William L., Grandview
Dodge, Mark, 4320 Wornall Road 11
Dodge, Milton, 2005 W. 71st Ter., Shawnee Mission, Kan.
Doering, Robert W., 6400 Prospect Ave. 32
Dolezal, Joseph B., Bryant Bldg. 6
Dorsch, Ervin H., 10901 Winner Road, Independence
Downey, James W., 425 E. 63rd St. 10
Drake, Roy F., Professional Bldg. 6
Draney, Thomas E., 425 E. 63rd St. 10
Drisko, Robert M., 4620 Nichols Parkway 12
Drowns, Bruce V., 4320 Wornall Road 11
Duer, Mildred C., 310 W. 47th St. 12
Duncan, Ralph E., P.O. Box 2597, 42
Duncan, William H., Professional Bldg. 6
Dunleavy, James D., Wirthman Bldg. 9
Durnell, Monaford D., 615 W. 3rd St., Lee's Summit
Dwyer, Frank X., 4620 Nichols Parkway 12
Dwyer, Hugh L., City Hall Bldg. 6
Edde, Clifford G., Argyle Bldg. 6
Edmonds, Devilla D., 6400 Prospect Ave. 32
Eisemann, Gustave, 751 E. 63rd St. 10
Eldridge, Charles J., 409 E. 63rd St. 10
Elias, David J., 9306 E. New 40 Highway, Independence
Elliott, James R., 1080 Busch Garden Court, Pasadena, Calif.
Elliott, Raymond C., Bryant Bldg. 6
Elliott, Wade E., 710 W. 12th St. 5
Ellis Elmer F., 1326 Lake Drive 8
Elser, Otto H., 10901 Winner Road, Independence
Endlich, Harold L., 6400 Prospect Ave. 32
Engel, Lawrence P., 315 Nichols Road 12
Engelking, David F., 9507 E. 63rd St. 33
Enna, Carl D., 306 E. 12th St. 6
Eshelman, Albert D., 9306 E. New 40 Highway, Independence
Eubank, David F., Raytown Clinic 33
Eubank, Dillard M., 9406 E. 63rd St. 33
Eubank, William R., 7544 Troost Ave. 31
Eubank, William Y., 6400 Prospect Ave. 32
Farley, Claude C., 6400 Prospect Ave. 32
Farney, Jacob P., 2721 W. 69th St., Shawnee Mission, Kan.
Farnsworth, Jesse J., 1103 Grand Ave. 6
Feierabend, Frank L., Argyle Bldg. 6
Feist, George V., Professional Bldg. 6
Ferguson, Donald S., 2012 E. 24th St. 27
Ferguson, James T., Bryant Bldg. 6
Ferris, Carl R., 6400 Prospect Ave. 32
Finkle, Robert H., 1212 W. Truman Road, Independence
Fitzgerald, Robert H., 10901 Winner Road, Independence
Flanders, Virgil E., Professional Bldg. 6
Flatley, John A., 9406 E. 63rd St. 33
Fleming, Royall B., 1433 E. 19th St. 8
Florian, Albert J., 1224 W. 69th Ter. 13
Folck, William P., Professional Bldg. 6
Forman, Louis H., 4320 Wornall Road 11
Forsythe, Robert W., 4320 Wornall Road 11
Fouts, Dallas B. Sr., 13101 E. 43rd St., Independence
Fowler, Fred D., 4320 Wornall Road 11
Fowler, James W., 1103 Grand Ave. 6
Franklin, Curtis U., 2701 E. 31st St. 28
Fredeen, Robert C., 411 Nichols Road 12
Frick, John P., Professional Bldg. 6
Friedman, Morris L., 701 E. 63rd St. 10
Fritzlen, Thomas J., 6848 Locust St. 31
Fuhrman, Donald L., 4320 Wornall Road 11
Fulton, Albert E., 9501 Madison Ave. 14
Fury, Tex E., 642 Huntington Road 13
Gainey, Harold L., 4320 Wornall Road 11
Ganley, William C., Argyle Bldg. 6
Gard, Raymond F., 10901 Winner Road, Independence
Garrison, Roy F., 6400 Prospect Ave. 32
Gaskins, John H., 4320 Wornall Road 11
Geha, Braham J., 7546 Troost Ave. 31
Gemple, Paul A., 315 Nichols Road 12
Gentry, Enoch N. Jr., Telephone Bldg. 6
Getelson, Joseph, 11 E. 62nd St. 13
Gibson, David M., St. Luke's Hospital 11
Gier, Richard H., Grandview Clinic, Grandview
Gilkey, Harry M., Professional Bldg. 6
Gilliland, Oliver S., 420 E. 70th St. 31
Gillmor, Charles S., 420 E. Armour Blvd. 9
Ginardi, Donald E., 4643 Wyandotte St. 12
Ginsberg, Norman A., 751 E. 63rd St. 10
Gist, William W., 330 W. 47th St. 12
Glasscock, Ernest L., 411 Nichols Road 12
Goldman, Stanley L., 7546 Troost Ave. 31
Goldsich, Edward, 209 W. 47th St. 12
Goodman, Leroy, 751 E. 63rd St. 10
Goodson, William H. Jr., 1103 Grand Ave. 6
Goolsbee, Robert L., 3001 W. 48th Ter., Shawnee Mission, Kan.
Gottsch, Joseph C., 205 E. 63rd St. 13
Grabske, Charles F., 10901 Winner Road, Independence
Grabske, Charles F. Jr., 10901 Winner Road, Independence
Graham, James W., Argyle Bldg. 6
Graham, Wallace H., Argyle Bldg. 6
Grauerholz, James W., 4203 Mercier St. 11
Greaves, Eli A., 7303 Madison Ave. 14
Green, John R., 1107 Appleton Ave., Independence
Green, Stanley L., 10901 Winner Road, Independence
Greene, W. Wallace, 4620 Nichols Parkway 12
Gregory, Ralph W., 4620 Nichols Parkway 12
Griffith, John A. Jr., 4320 Wornall Road 11
Growdon, John A., Professional Bldg. 6
Guffey, Don C., Professional Bldg. 6
Gullett, Charles C., 1735 Baltimore Ave. 8
Gundle, Sigmund, 425 E. 63rd St. 10
Gunn, Richard W., Professional Bldg. 6
Haggan, Margaret E., 7809 E. 55th St. N. 19
Haight, John M., 3401 E. 12th St. 27
Haith, Walter F., 2701 E. 31st St. 28
Hall, Ralph R., St. Luke's Hospital 11
Hall, Thomas B., Professional Bldg. 6
Halperin, Phillip H., 751 E. 63rd St. 10
Hamel, Herbert A., 6306 Morningside Drive 13
Hamill, Robert W., 4320 Wornall Road 11
Hanes, Lee D., 446 W. 69th St. 13
Hanes, Robert L., 12300 S. 71 Highway, Grandview
Hardacre, Ruth A., 3300 Charlotte St. 9
Hardy, John W., Professional Bldg. 6
Harless, Morris S., 4320 Wornall Road 11
Harned, Bert W., 2826 Main St. 8
Harris, Boyd L., 8982 Kobe Place, San Diego, Calif.
Hart, Lawrence W., 4643 Wyandotte St. 12
Hartwig, Frederick H., 6400 Prospect Ave. 32
Hash, Emalyn H., 807 W. 69th Ter. 13
Hashinger, Edward H., 7884 Lookout Drive, La Jolla, Calif.
Hausheer, Herman J., 1612 W. Truman Road, Independence
Haynes, Lee, 820 Archibald St. 11
Haynes, Solon E., 2727 Main St. 8
Hazen, Robert M., 6400 Prospect Ave. 32
Heller, B. Marcus, 409 E. 63rd St. 10
Hellerstein, Stanley, 751 E. 63rd St. 10
Helman, Richard G., 7721 State Line 14
Henry, Clarke L., 4320 Wornall Road 11
Henry, Schubert D., 1115 Grand Ave. 6
Herrman, George V., 4320 Wornall Road 11
Hibbard, Blaine Z., 4320 Wornall Road 11
Hickerson, William H., 604 W. Maple Ave., Independence
Higgins, Robert S., 1001 W. 55th St. 13
Hill, Jack H., Trinity Lutheran Hospital 8
Hill, Jesse N., 1438 Hedges Ave., Independence
Hink, Frederick W., 10229 Independence Road, Independence
Hirsch, Joe E., 4643 Wyandotte St. 12
Hoadley, William D., 6400 Prospect Ave. 32
Hodgson, Frank H., 4301 Main St. 11

Hoeper, Samuel D., 12921 Grandview Road, Grandview
Hoffman, Jacob S., 751 E. 63rd St. 10
Hoffmann, R. Lee, Professional Bldg. 6
Hogan, Daniel F., 100 Laguna Hts., Port Isabel, Tex.
Hogue, Frank S., 4320 Wornall Road 11
Holder, Thomas M., 39th & Rainbow Blvd. 3
Hollweg, Kenneth C., 4320 Wornall Road 11
Holt, Waldo S., 4620 Nichols Parkway 12
Holton, Edward B., 10901 Winner Road, Independence
Hook, Waller C., 6400 Prospect Ave. 32
Hornstra, Robijn K., 2200 McCoy St. 8
Hughes, Gerald E., 6400 Prospect Ave. 32
Hungate, Carroll P., Professional Bldg. 6
Hunt, Claude J., 6400 Prospect Ave. 32
Hunter, Martin P., 4706 Broadway 12
Hunzicker, Warren J., 2300 Holmes St. 8
Hurwitt, Frank, Park East Hotel 6
Hyde, Lawrence L., 4620 Nichols Parkway 12
Ingham, Walton C., 4320 Wornall Road 11
Irwig, Fred, Professional Bldg. 6
Jackson, Haywood R., 2715 W. 41st Ave., Kansas City, Kan.
Jackson, William R., Bryant Bldg. 6
Jacob, Walter P., 701 E. 63rd St. 10
Jacobs, Morton, 6314 Brookside Plaza 13
Jacobs, Walter H., 751 E. 63rd St. 10
Jaime, Nicholas, 1820 W. 38th St. 11
James, Otis E. Jr., 6306 Morningside Drive 13
Jansen, Robert, 101 E. 63rd St. 13
Jarvis, James A., 4320 Wornall Road 11
Jeffries, Robert C., 6315 Brookside Plaza 13
Jenab, Morteza, 751 E. 63rd St. 10
Jennett, J. Harvey, Professional Bldg. 6
Johns, Leo E., General Hospital 8
Johnson, C. Laurence, Professional Bldg. 6
Johnson, James S., 2202 E. 18th St. 27
Johnson, Joseph E., 5801 E. 113th St. 34
Johnson, Morris B., 1105 130th St., Grandview
Johnson, Thomas M., 4320 Wornall Road 11
Johnstone, Paul N., Bryant Bldg. 6
Jonas, Harry S. Jr., 11711 Markham Road, Independence
Jones, George H., 1435 E. 78th St. 31
Jones, T. Reid, 411 Nichols Road 12
Justus, John B., Plaza Parkway Bldg. 12
Kanarck, Joseph, 751 E. 63rd St. 10
Kantor, Julius M., 701 E. 63rd St. 10
Kantor, Samuel, 751 E. 63rd St. 10
Kartus, Irving, 6155 Oak St. 13
Katz, Milton, 4620 Nichols Parkway 12
Kaul, Philip G., 4320 Wornall Road 11
Keairnes, Harold W., 3800 S. Woodland Ave., Independence
Kealhofer, George C., 6627 Prospect Ave. 32
Keeler, James E., 4620 Nichols Parkway 12
Kelly, Eugene H., The Baptist Home, Ironton
Keltner, Raymond O., 6635 Monroe Ave., Raytown
Kendall, Charles A., 10901 Winner Road, Independence
Kennard, George K., 4320 Wornall Road 11
Kent, Bela K., 701 E. 63rd St. 10
Kent, Clifford F., Professional Bldg. 6
Ketcham, William M., 4706 Broadway 12
Ketterman, Grace H., 113th & 71 Highway 34
Ketterman, Herbert L., 9231 Belinder Road 15
Kettner, Edward G., Professional Bldg. 6
Kienberger, Paul A., 10605 E. 35th Ter., Independence
Kiene, Richard H., 4312 Nichols Parkway 11
Kimball, Merritt H., 610 E. 36th St. 9
King, J. Tenbrook, 4320 Wornall Road 11
King, Walter R., Professional Bldg. 6
Kingsbury, Helen, 6415 Sagamore Road, Shawnee Mission, Kan.
Kiser, David M., 920 W. 47th St. 12
Kitchen, William M., 425 E. 63rd St. 10
Klein, Edward H., Plaza Medical Bldg. 12
Klepinger, Dayton P., 826 Warwick Court, Neosho
Knight, John S., 305 W. 43rd St. 11
Knight, Lyle B., 615 W. 3rd St., Lee's Summit
Knoch, H. Kermit, Plaza Parkway Bldg. 12
Koehler, Charles A., Argyle Bldg. 6
Kohn, Cecil M., 751 E. 63rd St. 10
Korth, William M., Professional Bldg. 6
Kraft, Jacob, 701 E. 63rd St. 10
Kranson, Seymour J., 11200 Winner Road, Independence
Kuhn, William F. II, 6247 Brookside Plaza 13
Kyger, Fred B., 4911 E. 27th St. 27
Kyger, John E., 701 E. 63rd St. 10
Kyner, Thomas A., Wirthman Bldg. 9
Lacy, N. Eugene, Plaza Time Bldg. 12
Laffoon, France L., 869 Alta Vista Drive N., Vista, Calif.
Lally, James J., 906 Grand Ave. 6
Lamar, Robert F., Professional Bldg. 6
Lambert, L. Marian, 5302 Paseo Blvd. 10
Lambie, Rodger W., 8926 Mastin St., Overland Park, Kan.
Landis, George K., Professional Bldg. 6
Lapi, Angelo, 2012 Stratford Road, Shawnee Mission, Kan.
Lapp, Harry C., 751 E. 63rd St. 10
Latham, Raymond W., 4620 Nichols Parkway 12
Lauer, Daniel J., 4320 Wornall Road 11
Laurenzana, Frank P., 428 S. White Ave. 23
Layton, Ira C., 6400 Prospect Ave. 32
Lee, George C., P.O. Box 1065, 41
Lee, Henry A., Professional Bldg. 6
Lehner, Richard L., Professional Bldg. 6
Leifer, William W., 701 E. 63rd St. 10
Leitch, Cecil G., 808 S. 15th St., Blue Springs
Leitz, Frank B., Professional Bldg. 6
Lentz, Clark H., 215 W. Pershing Road 8
Leo, William A., 6400 Prospect Ave. 32
Levey, Harry B., 701 E. 63rd St. 10
Lewis, Revis C., Professional Bldg. 6
Lichtor, Alexander, 751 E. 63rd St. 10
Lichtor, Joseph M., 751 E. 63rd St. 10
Lieberman, B. Albert Jr., 4620 Nichols Parkway 12
Lilly, Terry E. Sr., 306 E. 12th St. 6
Lilly, Terry E. Jr., 306 E. 12th St. 6
Link, Vance E., 1201 W. 36th St., Independence
Linville, Howard E., Professional Bldg. 6
Lloyd, Ivan E., 1816 Rankin St., Independence
Lohrentz, Lois H., 1710 Independence Ave. 6
Long, R. Stacy, 6400 Prospect Ave. 32
Lowell, Paul, 4742 Liberty St. 12
Lowrey, Ford J., Rialto Bldg. 6
Lundgren, Fred H. Jr., 4706 Broadway 11
Lyddon, Harold F. Jr., 75th & Troost St. 31
Lyle, Ray M., 5725 Park Lane 30
Lytton, George J., 411 Nichols Road 12
McAlester, Andrew W. III, 33 E. Elizabeth St., Brownsville, Tex.
McCalla, John P., Blue Ridge Professional Bldg. 33
McCanse, Andrew, 4320 Wornall Road 11
McCarthy, William F., 140 Lake Topawingo, Blue Springs
McClanahan, Robert C., Professional Bldg. 6
McConchie, James E., 10901 Winner Road, Independence
McCoy, Frederick J., 701 E. 63rd St. 10
McCubbin, Clarence R., 701 E. 63rd St. 10
McCullough, Campbell C., Argyle Bldg. 6
McCunniff, William B., Argyle Bldg. 6
McDonald, Bruce P., 2604 Prospect Ave. 27
McDonald, Victor G. Jr., Plaza Time Bldg. 12
McDonnell, John F., 4320 Wornall Road 11
McFarland, M. Donald, 4320 Wornall Road 11
McGannon, Paul T., 920 W. 47th St. 12
McGuire, Thomas H., 429 W. 58th St. 13
McIntyre, John D., 4516 Cambridge Court 10
McKee, Joseph W., 4320 Wornall Road 11
McKee, Wallace P., 4320 Wornall Road 11
McLeod, John, 116 W. 47th St. 12
McMillan, Thomas E., 6400 Prospect Ave. 32
McPhee, William R., Argyle Bldg. 6
McVay, James R., V. F. W. Bldg. 11
McVay, James R. Jr., V. F. W. Bldg. 11
MacInnis, Florence E., 4620 Nichols Parkway 12
Maclean, John A., P.O. Box 258, Baldwin City, Kan.
MacNaughton, Ralph E., St. Joseph's Hospital 28
MacNaughton, Robert A., 3208 W. 101st St, Leawood, Kan.
Mangels, Kenneth A., 1212 W. Truman Road, Independence
Mantell, Harriet B., 634 W. 67th Ter. 13
Marks, Mark M., 701 E. 63rd St. 10
Marsh, Alice, Pleasant Hill
Marshall, Cameron F., Plaza Theatre Bldg. 12
Masucci, Joseph M., Argyle Bldg. 6
Mathewson, Hugh S., 4620 Nichols Parkway 12
May, James W., 425 E. 63rd St. 10
Mayer, John H. Jr., Plaza Parkway Bldg. 12
Melgaard, S. Ross, 6831 Cherry St. 31
Meriwether, Don R., 4620 Nichols Parkway 12
Meyer, Paul W., 4312 Nichols Parkway 12
Meyers, Harold L., 1901 Brookwood St., Mission, Kan.
Miles, George O., 4320 Wornall Road 11
Miller, Clint L., 615 W. 3rd St., Lee's Summit
Miller, Gerald L., 4706 Broadway 12
Miller, Max I., 2826 Main St. 8
Miller, Wilson H., 3632 Independence Ave. 24
Mitchell, Andrew D., 4320 Wornall Road 11
Mitchell, Robert H., Bryant Bldg. 6
Mixson, William C., 4320 Wornall Road 11
Monahan, Elmer P., 17500 W. 95th St., Lenexa, Kan.
Montello, Samuel A., 4620 Nichols Parkway 12
Montgomery, James G., 6400 Prospect Ave. 32
Mooney, Justin L., Bryant Bldg. 6
Mooney, Marcel L., 751 E. 63rd St. 10
Moore, Robert A., P.O. Box 679 41
Morest, F. Stanley, 1408 Polk St., Hollywood, Fla.
Morgan, David B., 4620 Nichols Parkway 12
Morris, Joseph H. Jr., 5017 George St. 33
Morris, William R., 9406 E. 63rd St. 33
Moss, Paul, 4706 Broadway 12
Mosser, Robert S., 3114 Norton St., Independence
Mueller, Martin J., 6400 Prospect Ave. 32
Mullen, Leo M., 4443 Paseo Blvd. 10
Multhauf, Cyril J., 5629 W. 50th St., Mission, Kan.
Mundy, William L., 4635 Wyandotte St. 12
Murphy, Robert J., 4320 Wornall Road 11
Myers, John S., Shukert Bldg. 6
Myers, Robert M., Rialto Bldg. 6
Myers, Wilson A., 425 Huntington Road 13
Naime, Mansour J., 425 E. 63rd St. 10
Nash, George W., 315 Nichols Road 12
Needels, Orval T., 7400 Wornall Road 14
Nelson, Bentley A., 305 W. 43rd St. 11
Nesselrode, John H., 10901 Winner Road, Independence
Newman, Robert L., 7721 State Line 14
Nickson, Charles E. Jr., 10901 Winner Road, Independence
Nicolay, Kenneth S., 4320 Wornall Road 11
Nigro, Dominic M., 207 E. 51st Ter. 12
Nigro, E. Robert, 1047 W. 53rd Ter. 12
Nigro, Joseph A., 1055 W. 55th St. 13
Noltensmeyer, Milton N., 3305 W. 50th Ter., Shawnee Mission, Kan.
Nunn, Pat M., 1401 Southwest Blvd., Kansas City, Kan.
O'Brien, Leo A., Argyle Bldg. 6
Ogilvie, John H., Box 157, R. 1, Gravois Mills
O'Hearne, John J., 4643 Wyandotte St. 12
O'Malley, James F., 6400 Prospect Ave. 32
O'Neil, James H., 425 E. 63rd St. 10
Ost, Mark D., 4720 Terrace St. 12
Overesch, Harry B., 6400 Prospect Ave. 32
Owens, Graham J., 152 W. Mezzanine, Union Station 8
Owens, Hugh W., 152 W. Mezzanine, Union Station 8
Owens, Richard L., 9228 E. Highway 50, 33
Owens, Robert H., 6400 Prospect Ave. 32
Ozar, Milton B., 701 E. 63rd St. 10
Padfield, Earl G. Jr., Plaza Broadway Bldg. 12
Pakula, Sidney F., 751 E. 63rd St. 10
Pallett, Harold A., 4620 Nichols Parkway 12
Parker, Elmer L., 3027 Campbell St. 9
Parker, Hubert M., Argyle Bldg. 6
Parsons, Eugene O., 315 Nichols Road 12
Passman, Harold, 701 E. 63rd St. 10
Pearson, Paul E., Rialto Bldg. 6
Peete, Don C., Professional Bldg. 6
Penner, Stanley, 751 E. 63rd St. 10
Perll, Maurice F., 830 W. 61st Ter. 13
Perll, Rita D., 830 W. 61st Ter. 13
Perry, Ralph, 6400 Prospect Ave. 32

Peters, Evelyn L., Menorah Medical Center 10
Petersen, A. Gene, 4444 Wornall Road 12
Peterson, Carl M., 2701 E. 31st St. 28
Peterson, George L., 4806 W. 68th St., Shawnee Mission, Kan.
Peterson, Milton C., 701 E. 63rd St. 10
Peterson, Walter R., 2701 E. 31st St. 28
Petry, Ezra L., 701 E. 63rd St. 10
Pfuetze, Edwin L., Plaza Parkway Bldg. 12
Pickard, Nicholas S., 6210 High Drive, Shawnee Mission, Kan.
Pickens, Edgar E., 4826 Roanoke Parkway 12
Pierron, John B., 6516 Linden Road 13
Pinsker, Oscar T., Doctors Bldg. W. 10
Piper, Donald K., Professional Bldg. 6
Pipkin, Garrett F., Argyle Bldg. 6
Pittam, Radford F., 418 Hyde Park, Hutchinson, Kan.
Polk, George M., 12112 E. 52nd Ter. 33
Pollock, Leo H., 751 E. 63rd St. 10
Pope, Charles H. Jr., 1509 W. Truman Road, Independence
Porter, Louis, 701 E. 63rd St. 10
Potter, Lee G., Professional Bldg. 6
Potts, Donald A., 3745 Springfield St., Kansas City, Kan.
Powers, John M., 3304 Linwood Blvd. 28
Prentiss, Harry S., 6832 Sni-A-Bar Road 29
Preston, Albert Jr., 4320 Wornall Road 11
Printz, Joseph H., 701 E. 63rd St. 10
Printz, Otto J., 701 E. 63rd St. 10
Pucci, Gregory L., 411 Nichols Road 12
Pugh, Richard G., 1612 W. Truman Road, Independence
Quer, Erich A., 6400 Prospect Ave. 32
Quistgard, Paul C., 6741 Prospect Ave. 32
Rader, Ada B., 13414 Locust St. 45
Raich, Robert A., 4320 Wornall Road 11
Ramey, Ehret O., 4635 Wyandotte St. 12
Ramos, John F. Jr., 2849 Indiana Ave. 28
Rannie, Paul R., 709 S. Fuller St., Independence
Rector, Joe L. Jr., St. Luke's Hospital 11
Reinhardt, George R., 6400 Prospect Ave. 32
Reister, Philip D., Argyle Bldg. 6
Reitz, Carl H., 7329 Broadway 14
Remley, George C., Argyle Bldg. 6
Reynolds, Clarence C., 4615 E. 43rd Ter. 30
Rhoades, Arthur B., Professional Bldg. 6
Richardson, Marion W., 2526 Prospect Ave. 27
Richert, Robert C., General Hospital 8
Riley, Joseph P. Jr., General Hospital 8
Riller, Lowell E., Professional Bldg. 6
Rinkel, Herbert J., Bryant Bldg. 6
Roberts, Grosvenor G., 701 E. 63rd St. 10
Roberts, Harold M., Professional Bldg. 6
Roberts, Sam E., Professional Bldg. 6
Robinson, Arthur W., 4320 Wornall Road 11
Robinson, E. Kip, Professional Bldg. 6
Robinson, G. Wilse Jr., 2625 Paseo Blvd. 8
Robinson, William J., 9931 Lee Circle, Leawood, Kan.
Robison, James T. Jr., 4620 Nichols Parkway 12
Rodgers, George H., 6305 N. Woodland Ave. 18
Rodgers, Samuel U., 2701 E. 31st St. 28
Rogers, Robert L., 701 E. 63rd St. 10
Rose, Charles W., 334 S. Van Brunt St. 24
Rubin, Sidney, 1287 W. 72nd St. 14
Rubnitz, Leon H., 701 E. 63rd St. 10
Rufe, John R., Bryant Bldg. 6
Russell, James L., 4320 Wornall Road 11
Russell, Richard L., 205 E. 63rd St. 13
Russell, Robert K., 63rd & Evanston Sts., Raytown
Saferstein, A. Lester, 6859 Cherry St. 31
Saladino, Anthony, Argyle Bldg. 6
Samuelson, Edward A., 4620 Nichols Parkway 12
Sanders, Harmon U. Jr., 10901 Winner Road, Independence
Sanders, William F., 411 Nichols Road 12
Santoro, Carlos G., 3309 W. 63rd St., Shawnee Mission, Kan.
Saper, Philip, 3 E. 3rd St., Lee's Summit
Sauer, Gordon C., 6400 Prospect Ave. 32
Saunders, Everett L., 121 W. Lexington St., Independence
Scarpellino, Louis A., St. Luke's Hospital 11
Schaerrer, William C., 4320 Wornall Road 11
Schiffmacher, Jack E., Professional Bldg. 6
Schillie, Gene A., 6400 Prospect Ave. 32
Schorer, Edwin H., 221 W. 48th St. 12
Schottman, Gerhard W. Jr., St. Luke's Hospital 11
Schutz, Carl B., 320 W. 47th St. 12
Schutz, Richard B., Plaza Time Bldg. 12
Seeley, J. Bradford, 520 Dickinson Road, Independence
Seely, Clark W., 4320 Wornall Road 11
Sewell, Minor F., 1722 W. 39th St. 11
Shackleford, Elbert C., 9406 E. 63rd St. 33
Shapiro, Lazare M., 701 E. 63rd St. 10
Sheahon, John A., 9406 E. 63rd St. 33
Shecter, Nathan, 701 E. 63rd St. 10
Shelden, Russell D., 701 E. 63rd St. 10
Sheldon, John 6305 Brookside Plaza 13
Shifrin, Alexander, 6824 Holmes St. 31
Shireman, Kenneth L., 4606 St. John Ave. 23
Shires, Edward B., 10312 Cherokee Lane, Leawood, Kan.
Shockley, Clarence J., 5927 McGee St. 13
Shofstall, Charles K., 310 W. 47th St. 12
Shuey, Herbert H., 3903 Brooklyn Ave. 30
Shypper, Moses J., 751 E. 63rd St. 10
Simon, Sanford, 8129 Rosewood Ave., Shawnee Mission, Kan.
Sinclair, Alexander B., 920 W. 47th St. 12
Singleton, John M. III, 4320 Wornall Road 11
Skillman, Robert K., 4320 Wornall Road 11
Skinner, John O., Bryant Bldg. 6
Skinner, John T., Bryant Bldg. 6
Slentz, Edwin L., 4320 Wornall Road 11
Slentz, William A., 4320 Wornall Road 11
Slickman, R. A., 7721 State Line 14
Smith, Arthur B., 6400 Prospect Ave. 32
Smith, Dale C., 4320 Wornall Road 11
Smith, H. Eugene, 411 Nichols Road 12
Smith, Ira T., 6400 Prospect Ave. 32
Smith, Katherine W., 801 W. 58th Ter. 13
Smith, O. D., 6300 Woodson St., Mission, Kan.
Smith, Robert A., 24th & Cherry Sts. 8
Smith, Wallace B., 10901 Winner Road, Independence
Sneid, Philip, 701 E. 63rd St. 10
Snider, Samuel H., 722 Ward Parkway 21
Snider, Wilbur R., Professional Bldg. 6
Spafford, Allen L., 315 Nichols Road 12
Spurney, Otto M., 409 E. 63rd St. 10
Stacey, Wallace R., 10901 Winner Road, Independence
Staggs, William A., Argyle Bldg. 6
Staley, Harry R., Bryant Bldg. 6
Starke, Helen (Sister Paula Theresa) Queen of the World Hospital 27
Statland, Harry, 751 E. 63rd St. 10
Statland, Morris, 751 E. 63rd St. 10
Steffen, Lawrence F., Professional Bldg. 6
Stegman, Elmer G., 6137 Blue Ridge Blvd., Raytown
Stein, Joseph W., 1103 Grand Ave. 6
Stelle, Charles W., Box 1159, The Bendix Corporation 41
Stelmach, Walter J., 7949 State Line 14
Stockton, Raymond W., 4320 Wornall Road 11
Stockwell, A. Lloyd, Professional Bldg. 6
Stotts, Charles S., 8221 Nall Ave., Prairie Village, Kan.
Stratemeier, Edward H., Rialto Bldg. 6
Strauss, Carl F., 751 E. 63rd St. 10
Summers, Caldwell B., Plaza Theatre Bldg. 12
Sutton, Richard L. Jr., 411 Nichols Road 12
Swisher, Robert C., 425 E. 63rd St. 10
Switzer, Clyde, 8100 W. 54th Ter., Merriam, Kan.
Szabados, Ernest D., 1612 W. Truman Road, Independence
Tarson, Solomon S., 837 W. Gregory St. 14
Tasker, Charles B., 31st & Wyandotte St. 8
Teall, Raymond E., 650 W. 56th St. 13
Teare, Max E., 1542 E. 50th Ter. 24
Terrill, Robert S., 4643 Wyandotte St. 12
Tesson, James A., Rialto Bldg. 6
Theel, Otto W. Jr., 4301 Main St. 11
Thiele, George H., 411 Nichols Road 12
Thomas, Christopher Y., 4320 Wornall Road 11
Thompson, Charles L., 4320 Wornall Road 11
Thorn, Druery R., 4320 Wornall Road 11
Threlkeld, William L. Jr., 1735 Baltimore Ave. 8
Tice, Wayne K., 1509 W. Truman Road, Independence
Trippe, Harrison C., 6247 Brookside Blvd. 13
Trowbridge, Barnard C., 415 E. 63rd St. 10
Trowbridge, Ellsworth H., 5317 W. 72nd St., Prairie Village, Kan.
Trowbridge, Ellsworth H. Jr., 411 Nichols Road 12
Trulove, Laurance A., 1222 McGee St. 6
Turner, Percy C., 1433 E. 19th St. 8
Tutera, Dominic F., Plaza Medical Bldg. 12
Tuthill, Herbert, Rialto Bldg. 6
Twin, Edward J., 701 E. 63rd St. 10
Twyman, Richard A., 4320 Wornall Road 11
Underwood, Dick H., Bryant Bldg. 6
Underwood, Harry A., 5100 E. 24th St. 27
Underwood, Johnson Jr., Professional Bldg. 6
Underwood, Ross H., Bryant Bldg. 6
Unger, Harold, 701 E. 63rd St. 10
Upsher, Albert E., Argyle Bldg. 6
Van Biber, James T., 1612 W. Truman Road, Independence
Van Buskirk, Terrance E., 5246 St. John Ave. 23
Van Buskirk, William C., 4620 Nichols Parkway 12
Vaughn, James W., Neurological Hospital 8
Vilmer, Charles, Professional Bldg. 6
Vincent, Jack C., 701 E. 63rd St. 10
Virden, Herbert H., Professional Bldg. 6
Voth, Harold W., 4320 Wornall Road 11
Wade, Frederick E., Professional Bldg. 6
Wakefield, Franklin H. Jr., 1102 Grand Ave. 6
Walker, James C., 2727 Main St. 8
Walker, John W., 6400 Prospect Ave. 32
Walker, Orville C. Jr., 11200 Winner Road, Independence
Wall, Harry C., 751 E. 63rd St. 10
Wall, Leonard A., 4320 Wornall Road 11
Ward, Robert L., 4126 St. John Ave. 23
Watson, Ethel, First National Bank Bldg., Independence
Waxman, David, 4840 Prospect Ave. 30
Waxman, Jane Z., 4840 Prospect Ave. 30
Weakley, David R., 411 Nichols Road 12
Webb, Harry E., 330 W. 47th St. 12
Webster, Joseph G., Plaza Parkway Bldg. 12
Weiford, Edward C., 4320 Wornall Road 11
Welker, Joseph E., 6441 Summit St. 13
Wells, John H., 3718 Prospect Ave. 28
Weltscheff, Christo A., 1800 Blue Ridge Ext. 46
Wheeler, Charles B., 820 W. 57th St. 13
Wheeler, John H., 4320 Wornall Road 11
White, Charles H., 6518 Overhill Road, Prairie Village, Kan.
White, George A., 3416 Paseo Blvd. 9
White, Stoughton F., 4320 Wornall Road 11
White, William E., Argyle Bldg. 6
Whiteman, John R., 6314 Brookside Plaza 13
Whitman, Doyle C., Sharp Bldg. 6
Whitmore, J. Stewart, 1039 W. 58th St. 13
Wien, Irving A., 1103 Grand Ave. 6
Wilhelm, Warren F., 6400 Prospect Ave. 32
Wilkinson, Charles B., 4604 Benton Blvd. 30
Wilkinson, Everett A., 6400 Prospect Ave. 32
Williams, Frank R., 4320 Wornall Road 11
Williams, George P., 10604 Blue Ridge Ext. 34
Williams, Joseph C. Jr., 6400 Prospect Ave. 32
Williams, Luke E., 2201 E. 27th St. 27
Williams, Robert A., 3701 Broadway 11
Williams, Roland D., 305 W. 43rd St. 11
Williams, Starks J., 4009 Wabash Ave. 30
Williams, Vincent T., Argyle Bldg. 6
Williamson, George L., Professional Bldg. 6
Willits, Lyle G., Professional Bldg. 6
Willoughby, Jean B., 6400 Prospect Ave. 32
Wilson, Clifford C., Plaza Time Bldg. 12
Wilson, Hester J., Plaza Time Bldg. 12
Winer, Herbert J., 751 E. 63rd St. 10
Winkelman, Esther B., 7449 Broadway 14
Winston, Bernard H., 751 E. 63rd St. 10
Wise, George W., 4620 Nichols Parkway 12
Withers, Orval R., Plaza Parkway Bldg. 12
Wolf, Jack W., 409 E. 63rd St. 10
Woods, Harold V., 808 S. 15th St., Blue Springs
Woods, Walton C., Medical Dept., TWA Midcontinent Intl. Airport 8
Woodward, William W., 10901 Winner Road, Independence
Workman, Charles E., Professional Bldg. 6
Wortmann, Robert F., 6400 Prospect Ave. 32

Wright, R. Paul, Professional Bldg. 6
Wu, William Q., 63rd & Holmes St. 10
Wurster, W. Joel, 305 W. 43rd St. 11
Yohe, Ruth M., 1710 Independence Ave. 6
Young, James E., 4320 Wornall Road 11
Young, Jesse W., 1401 Southwest Blvd., Kansas City, Kan.
Young, Paul R., 7424 Gregory Circle 33
Zellermayer, Jacob, 701 E. 63rd St. 10
Ziegler, Allen M., 804 S. Market, Holden
Ziegler, Dewey K., 425 E. 63rd St. 10
Zuber, Harold V., 6400 Prospect Ave. 32

JASPER COUNTY MEDICAL SOCIETY

(Joplin)

Allen, David O., 2525 S. Jackson St.
Barnett, Norman H., 25th & Jackson Sts.
Birsner, Frank H., 1717 River St., Carthage
Burch, John E., Medical Arts Bldg.
Carnes, Victor M., Medical Arts Bldg.
Chesney, George W., 25th & Jackson Sts.
Cohle, Richard R., 116 W. 3rd St., Carthage
Craig, Irwin T., 25th & Jackson Sts.
Crawford, Archie L., Frisco Bldg.
Crispell, Lawrence S., 6th & Pearl Sts.
DeTar, Burleigh E., 410 Jackson St.
DeTar, B. E. Jr., 410 Jackson St.
Douglass, Jesse E., 3560 Broadway, Kansas City
Eliscu, Juliette M., 2002 Jackson St.
Ferguson, Lewis H. Jr., Medical Arts Bldg.
Ferguson, Ralph L., Medical Arts Bldg.
Ferguson, Robert M., 110 N. Webb St., Webb City
Fritsch, Andrew J., 2920 Pearl St.
Graves, F. Burton, 114 W. 32nd St.
Grubb, Paul H., 2509 Jackson St.
Hall, Marvin F., Medical Arts Bldg.
Hamilton, Eugene H., Medical Arts Bldg.
Holtzman, Samuel, Medical Arts Bldg.
Hornback, Edward R., Frisco Bldg.
Hurst, Wilfred W., Medical Arts Bldg.
Isbell, Charles H., Carthage
Jeans, Virgil, Medical Arts Bldg.
Kiehl, Katharine, Miners Bank Bldg.
Kirschman, Robert E., 2529 Jackson St.
Koehler, John W., Medical Arts Bldg.
Kuhn, John R. Jr., Frisco Bldg.
Laney, Ronald L., 3140 Ocean St., Carlsbad, Calif.
Longenecker, Joe L., 2503 Jackson St.
McIntire, Emery J., 201 W. 3rd St., Carthage
McNew, William T., Carthage
McPike, Lloyd H., Frisco Bldg.
Mack, Mary L., Address Unknown
Maddox, John D., 6th & Pearl St.
O'Brien, James A., 545 N. 6th St., Muskogee, Okla.
Paddock, Charles S., Medical Arts Bldg.
Papp, Sandor D., Medical Arts Bldg.
Patterson, Donald R., 2509 Jackson St.
Patterson, Grover S., 510 S. Main St., Carthage
Pence, F. Wendell, 612 S. Main St., Carthage
Poor, Carl W., Box 302, Neosho
Post, Winfred L., 617 Joplin St.
Powell, Robert G., 2329 Jackson St.
Royce, James J., Sarcoxie
Schoeberl, Cletus B., Medical Arts Bldg.
Schulte, Gregory A., 2125 Jackson St.
Scorse, Sidney W., 2509 Jackson St.
Smith, Roland T., Medical Arts Bldg.
Smith, William R., 211 E. Chestnut St., Carthage
Walker, Paul W., Medical Arts Bldg.
Webster, Roger W., 863 Cherry Way, Hayward, Calif.
Wetzel, Fred S. Jr., 1515 Hazel St., Carthage
Whitten, M. Foster, 616 W. Centennial St., Carthage
Wieman, Harry K., Medical Arts Bldg.
Wilson, Alice H., 1923 Sergeant St.
Wood, George H., 1515 Hazel St., Carthage
Wooldridge, Bart F., Medical Arts Bldg.
Young, Calvin C. Jr., Medical Arts Bldg.

JEFFERSON COUNTY MEDICAL SOCIETY

Allbee, Roger H., Crystal City
Bolgar, Bertalan, Festus
Commerford, James J., Crystal City
Donnell, Harold E., DeSoto
Donnell, Robert H., Crystal City
Donnell, Thomas A., DeSoto
Edwards, Waldo B., 11 N. Taylor Ave., Kirkwood
Fallet, Charles E., DeSoto
Judge, Walter T., Crystal City
Kozal, Francis L., Crystal City
McKinstrey, Karl V., DeSoto
Mayfield, James L., Crystal City
Reich, Oliver F., Kimmswick
Rice, Carl E., Hillsboro
Rutledge, John F., Festus
Senn, Emmett J., Herculaneum
Yoskit, Harry, Festus

JOHNSON COUNTY MEDICAL SOCIETY

Cooper, R. Lee, Warrensburg
Damron, Oscar H., Warrensburg
Folkner, A. L., Warrensburg
Frein, Donald E., Leeton
Gonzalez, M. Garza, Warrensburg
Grove, Gulph W., Knobnoster
Harkness, Harry, Warrensburg
Johnson, Charles S., Warrensburg
Jones, Keith D., Warrensburg
Lederer, Charles M., Warrensburg
Maxson, T. Reed, Warrensburg
Rowlins, Kelly, Holden

KNOX COUNTY

(North Central Counties Medical Society)

LACLEDE COUNTY

(Mid-Missouri County Medical Society)

LAFAYETTE-RAY COUNTY MEDICAL SOCIETY

Best, Robert, Higginsville
Boydston, Catherine, Odessa
Boydston, W. Wayne, Odessa
Brady, Hugh S., Concordia
Brasher, Ben H., Lexington
Cook, Thomas B., Richmond
Cope, Joseph S., Lexington
Crozier, Franklin A., Richmond
Davault, George K., Richmond
Fulkerson, Wilbur E., Higginsville
Goldberg, Isadore E., Braymer
Kelling, Douglas G., Waverly
Kelling, Jordan, Waverly
Koppenbrink, Walter E. Jr., Higginsville
Lissack, Edmund, Concordia
Liston, Odus, Oak Grove
McFadden, Gene A., Waverly
Martin, Wilfred E., Odessa
Riley, Charles T., Richmond
Riley, Ralph W., 2054 Cedar Road, Homewood, Ill.
Ward, Joe, Lexington
Williams, John W., Oak Grove

LAWRENCE COUNTY

(Ozarks Medical Society)

LEWIS-CLARK-SCOTLAND COUNTIES MEDICAL SOCIETY

Davis, Landis Y., Canton
Gilfillan, Earl E., Memphis
Watson, Cecil L., Marshall

LINCOLN-ST. CHARLES COUNTY MEDICAL SOCIETY

(St. Charles)

Berry, Paul T., Troy
Canty, Eugene J., 114 N. Main St.
Clever, Henry W. Jr., 114 N. Main St.
Commerford, John F., 114 N. Main St.
Creech, Joseph C., Troy
Crider, Russell J., 222 S. 2nd St.
Damron, Edward O., Elsberry
Duling, Gerald J., 207 N. 5th St.
DuMontier, R. J., O'Fallon
Fleming, Robert J., 120 Clay St.
Hammes, Romar E., 207 N. 5th St.
Hetlage, Louis P., Troy
Keller, Robert M., Wentzville
Kister, George E., 302 S. 2nd St.
Muenster, Vincent P., 4th & Clay Sts.
Neubeiser, Ben L., 206 Washington St.
Penn, Robert M., Silex
Poggemeier, William H. Jr., 302 S. 2nd St.
Randall, Don Q., 220 S. 6th St.
Roter, Alexander M., St. Charles
Rother, Paul H., 114 N. Main St.
Scokel, Paul W. III, 207 N. 5th St.
Smoller, Martin B., 207 N. 5th St.
Towers, Orville W., 114 N. Main St.
Wipfler, Earl J. Jr., 2523 Nettie St.
Yaeger, Gerald A., 1916 Sibley St.

LINN COUNTY

(Grand River Medical Society)

LIVINGSTON COUNTY

(Grand River Medical Society)

McDONALD COUNTY

(Ozarks Medical Society)

MACON COUNTY

(Chariton-Macon-Monroe-Randolph County Medical Society)

MADISON COUNTY

(Mineral Area County Medical Society)

MARIES COUNTY

(Mid Missouri County Medical Society)

MARION-RALLS-SHELBY COUNTY MEDICAL SOCIETY

(Hannibal)

Archer, Perry C., Shelbyville
Bach, Lysle M., 1737 Harrison Hill
Birney, William P., 213 S. 5th St.
Burns, Francis R., 711 Grand Ave.
Canella, John M., 707 Broadway
Clisham, John F., B & L Bldg.
Fischer, Thomas J., 2910 St. Mary's St.
Foreman, Phillip B., 711 Grand Ave.
Francka, W. F., 603 Country Club Drive
Glascock, Donald W., Palmyra
Greene, Harry L., Holmes Bldg.
Hamlin, Wyeth, 711 Grand Ave.
Hardesty, Joel W., Holmes Bldg.
Johnson, Charles R., U.S.N.H. No. 926, FPO, San Francisco, Calif.
Landau, Daniel B., 711 Grand Ave.
Lanning, Robert J., 115 N. 5th St.
Latimer, Walter N. A., B & L Bldg.
Lichty, Charles A., Shelbina
Lucke, Eugene M., Court House
Mann, James K., Hannibal Clinic
Murphy, Bernard L., 2000 Crescent Drive
Plowman, Edward M., B & L Bldg.
Purcell, P. L., Hull, Ill.
Rapp, Earl L., 711 Grand Ave.
Roller, Merrill J., 2910 St. Mary's St.
Smith, William J., 108 N. 3rd St.
Steele, James C. Jr., 711 Grand Ave.
Strong, Richard M., 711 Grand Ave.
Sweets, Henry H. Jr., 1003 Broadway
Walterscheid, John H., 1209 Broadway
Well, Julius W., Palmyra

MERCER COUNTY

(Grand River Medical Society)

MID-MISSOURI COUNTY MEDICAL SOCIETY

(Phelps-Crawford-Dent-Pulaski-Maries-Laclede Counties)

Andreassen, Dimil F., Rolla
Bass, B. J., Salem
Baumann, Albert R., Steelville
Butts, James D., Rolla
Carrington, Howard W., Lebanon
Casey, Shederic A., Lebanon
Crosby, Alice S., Salem
Drake, Avery A., Rolla
Elders, Frank A. Jr., Cuba
Feind, Earl E., Rolla
Fisher, George E., Lebanon
Froelich, Rae W., Lebanon
Garrison, T. W., Camdenton
Hammler, Christiana V., St. James
Hart, Martin M., Salem
Holley, Donald B., Camdenton
Hope, James L., Lebanon
Hunt, Lloyd H., Salem
Hurst, Ben B., Lebanon

Jenkins, Paul A., Lebanon
Lytle, William R., Rolla
Miller, Clyde S., Waynesville
Mitchell, Roy E., Salem
Myers, James M., Rolla
Riffel, Gordon W., Bourbon
Russell, Barbara E., Rolla
Stricker, Emil A., St. James
Summers, Jacob H., Lebanon
Underwood, Millard K., Rolla
Young, Robert B., Rolla

MILLER COUNTY MEDICAL SOCIETY

Buehler, Carl T., Jr., Eldon
Shelton, Edward O., Eldon

MINERAL AREA COUNTY MEDICAL SOCIETY

(St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve Counties)

Appleberry, Charles H., Rivermines
Brennan, John A., Farmington
Bugg, Andrew F., Lordsburg, N. M.
Bull, Ben M., Ironton
Carleton, Charles E. Jr., Farmington
Chastain, Charles W., Farmington
Cresswell, George F., Potosi
Crouch, F. Richard, Farmington
Dennis, W. Paul, Flat River
Farrar, Charles B., 719 N. Middle St., Cape Girardeau
Ford, William, Farmington
Foster, Jack L., Desloge
Gaebe, Harold C., Desloge
Gaskins, Charles W., Fredericktown
Gay, George, Ironton
Grossman, Marvin, Fredericktown
Harland, Robert E., Ironton
Haw, Marvin T. Jr., Bonne Terre
Hoctor, Emmett F., Farmington
Huckstep, Robert A., Farmington
Hunt, John W. Jr., Leadwood
Karraker, Alvan G., Farmington
Lanning, Richard C., Ste. Genevieve
Menne, Marvin C., Ironton
Michaelis, Charles E., Fredericktown
Mullen, Jack, Bonne Terre
Oliver, George A., Farmington
Patton, William G., Ironton
Slaughter, Shelby C., Fredericktown
Taylor, Van W., Bonne Terre
Warren, T. Thomas, Poplar Bluff
Watkins, George L. Jr., Farmington

MISSISSIPPI COUNTY

(Semo County Medical Society)

MONITEAU COUNTY MEDICAL SOCIETY

Fulks, Richard B., California
Gallagher, Lionel M., California
Kibbe, Edgar A., California
Latham, Kenyon S., California

MONROE COUNTY

(Chariton-Macon-Monroe-Randolph County Medical Society)

MONTGOMERY COUNTY MEDICAL SOCIETY

Andersen, Elmer J. T., Montgomery City
Byland, Samuel J., Wellsville
Helm, James O., New Florence
Hirsch, Albert, Vandalia

MORGAN COUNTY MEDICAL SOCIETY

Gunn, Jack, Versailles
Kauffman, Ruth, Versailles
Lyle, Robert R., Versailles
Washburn, J. Loren, Versailles

NEW MADRID COUNTY

(Semo County Medical Society)

NEWTON COUNTY

(Ozarks Medical Society)

NODAWAY-HOLT-ATCHISON-GENTRY-WORTH COUNTIES MEDICAL SOCIETY

Bare, Edward F., Tarkio
Bauman, Henry C., Maryville
Blacklock, David E., King City
Byland, Benjamin F., Maryville
Carlin, Albert L., Stanberry
Carpenter, Wallace, Rock Port
Cossins, Carlos E., State Hospital No. 2, St. Joseph
Dunshee, Robert E., Maryville
Humphrey, James, Mound City
Imes, Elvin D., Maryville
Jackson, William R., Maryville
Kirk, Charlie W., Hopkins
Matteson, Frank B., Grant City
Niedermeyer, Edward L., Tarkio
Perry, David C., Mound City
Wanamaker, John M., Rock Port
Wempe, G. Raymond, Maryville

NORTH CENTRAL COUNTIES MEDICAL SOCIETY

(Adair-Schuyler-Knox-Sullivan-Putnam Counties)

Cramb, Arthur B., 711 C. E. Orange St., Lakewood, Fla.
English, Milton T. Jr., Kirksville
Freeman, Spencer L., Kirksville
Grim, Edward M., Kirksville
Hasselblad, Oliver W., 297 Park Ave. S., New York 11, N. Y.
Hilton, Paul E., Kirksville
Isom, Waldo B., Knox City
Jones, John B., Kirksville
Stickler, Ralph O., Kirksville
Sullivan, William J., V. A. Hospital, Providence 8, R. I.
Tarvydas, Francis, Edina
Wimp, J. J., Kirksville

OREGON COUNTY

(South Central Counties Medical Society)

OSAGE COUNTY

(Unorganized)

OZARK COUNTY

(South Central Counties Medical Society)

OZARKS MEDICAL SOCIETY

(Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald Counties)

Alsup, Frederick F., Belen, N. M.
Anderson, Paul B., Neosho
Aubin, Francis W., Branson
Bailey, Alan B., Mount Vernon
Blankenship, George W., Neosho
Bowman, Melvin C., Neosho
Brasher, Charles A., Mount Vernon
Brown, Frederick B., Aurora
Burney, Wallace S., Miller
Capetti, Alex P., Crane
Carter, James R., Neosho
Coffman, Esther E. L., 1514 13th N., Lakeworth, Fla.
Cohnberg, Rosellen E., Monett
Cowan, R. D., Aurora
Donley, Robert R., Monett
Edwards, Francis L., Monett
Evans, Harry T., Branson
Gillespie, Roy, Branson
Glass, William J. Jr., Monett
Glover, Kenneth, Mount Vernon
Graves, Arthur J., Mount Vernon
Hamilton, William P., Aurora
Hellweg, Charles E., Mount Vernon
Hobbs, George H., Mount Vernon
Imes, Clifford H., 11144 Harris Ave., Lynwood, Calif.
Kelsey, Kenneth L., Aurora
Kenney, Roy E., Neosho
Kerr, Frank T., Monett
Langeluttig, Harry V., Mount Vernon
Lentz, Harold C., Neosho
McCallum, A. J. C., Aurora
Magness, William C., Branson
Mars, Hartley F., Forsyth
Morrison, T. A., Aurora
Newman, Mary J. N., Cassville
Olive, George C., Neosho
Price, Charles H., Cassville
Reynolds, James R., Neosho
Roper, Stanley D., Ozark
Schultz, Loraine E., Branson
Shumate, L. St. Clair, Reeds Spring
Spears, Charles A., Branson
Sweany, Henry C., Mount Vernon
Taylor, Leo T., Neosho
Threadgill, Jesse M., Forsyth
Whitehead, Frank F., Neosho
Wilson, Daniel R., Mount Vernon
Wommack, Fred L., Crane
Yates, J. Lewis, Mount Vernon

PEMISCOT COUNTY MEDICAL SOCIETY

Aquino, Philip J., Caruthersville
Bryant, William O., Hayti
Cain, Charles F., Caruthersville
Caldwell, Jacob D., Hayti
Chapman, J. R., Steele
Cook, O. W., Caruthersville
Cooper, Lawrence E., 1274 Hanton St., Fort Myers, Fla.
Duckworth, Gordon L. Jr., Hayti
Grable, James, Portageville
Gubin, Alan S., Caruthersville
Hensley, Daniel R., Lilbourn
Limbaugh, Walter R., Hayti
McCoy, Warren R., Caruthersville
McKaskle, Clarence W., Caruthersville
Morris, Clyde L., Caruthersville
Painter, Andrew E., Portageville
Painter, Lattie B. Jr., Portageville
Shirley, Arnold G., Hayti
Smith, Robert S., Portageville
Strittmatter, James C., Caruthersville

PERRY COUNTY MEDICAL SOCIETY

Carron, Oscar A., Perryville
DeGenova, Gerard H., Ste. Genevieve
Fairchild, James F., Perryville
Feltz, Lawrence W., Perryville
Fischer, Theodore, Altenburg
Legner, Stanley G., Perryville
Lutkewitte, Joseph F., Ste Genevieve
McDermott, Alfred E., Perryville
Miller, Oliver J., Cape Girardeau
Utterman, William F., Perryville

PETTIS COUNTY MEDICAL SOCIETY

(Sedalia)

Beckemeyer, William A., 500 W. 16th St.
Bess, William E., 210 S. Ohio St.
Boger, James W., 500 W. 16th St.
Brady, Charles H., Gordon Bldg.
Braverman, Elliot M., 1806 W. 11th St.
Brazos, John C., Smithton
Campbell, A. J., 312 S. Ohio St.
Carlisle, John B., 1019 W. 6th St.
Daum, Harold F., Bothwell Memorial Hospital
Dyer, David P., 2511 Stephenson St.
Edwards, D. R., 700 Limit Ave.
Ewert, John O., 412 S. Ohio St.
Fisher, Stanley D., Sedalia
Gonser, Karl B., 101 S. Ohio St.
Hopkins, Thomas J., 700 S. Limit Ave.
Hopkins, T. Spencer, 1609 S. Limit Ave.
Lamy, John E., 509 W. Broadway
Long, Frank B., 723 W. 7th St.
Lowe, Alvin L., 1425 S. Grand Ave.
Maddox, Albert R., 116 W. Main St.
Osborne, Charles D., 710 W. Broadway
Proctor, Donald C., 700 S. Limit Ave.
Rhodes, Euhlan L., Warsaw
Roberts, Paul A., Sweet Springs
Rodeman, John M., Gordon Bldg.
Siegel, Carl D., 1216 W. 18th St.
Stauffacher, C. Gordon, 700 S. Limit Ave.
Stewart, Robert H., Bothwell Memorial Hospital
Walter, Archie L., 500 W. 16th St.
Worley, Charles A., Sweet Springs

PHELPS COUNTY

(Mid-Missouri County Medical Society)

PIKE COUNTY MEDICAL SOCIETY

Andrae, Robert L., Louisiana
Biggs, James B., Bowling Green
Christensen, Roger F., Louisiana
Jackson, Edward K., Clarksville
Lewellen, Charles H., Louisiana

Martin, W. Joe, Louisiana
Middleton, John W., Louisiana
Scott, Clive D., Louisiana
Wilcoxen, William B., Bowling Green

PLATTE COUNTY MEDICAL SOCIETY

Kimball, I. W., Parkville
Parker, H. Graham, Platte City
Robinson, John A., Edgerton
Thurman, Hill C., Parkville

POLK COUNTY

(Dallas-Hickory-Polk County Medical Society)

PULASKI COUNTY

(Mid-Missouri County Medical Society)

PUTNAM COUNTY

(North Central Counties Medical Society)

RALLS COUNTY

(Marion-Ralls-Shelby County Medical Society)

RANDOLPH COUNTY

(Chariton-Macon-Monroe-Randolph County Medical Society)

RAY COUNTY

(Lafayette-Ray County Medical Society)

REYNOLDS COUNTY

(Mineral Area County Medical Society)

RIPLEY COUNTY

(Butler-Wayne-Ripley County Medical Society)

ST. CHARLES COUNTY

(Lincoln-St. Charles County Medical Society)

ST. CLAIR COUNTY

(West Central Missouri Medical Society)

ST. FRANCOIS COUNTY

(Mineral Area County Medical Society)

STE. GENEVIEVE COUNTY

(Mineral Area County Medical Society)

ST. LOUIS MEDICAL SOCIETY

(St. Louis)

Abel, Charles C., 4511 Forest Park Blvd. 8
Abel, Oliver, 111, 4511 Forest Park Blvd. 8
Abell, Walter E., 2253 S. 39th St. 10
Abrams, Morris, 4919 Forest Park Blvd. 8
Acker, Harry L., 6150 Oakland Ave. 10
Ackerman, Lauren V., 600 S. Kingshighway Blvd. 10
Adler, Benard C., 4511 Forest Park Blvd. 8
Agress, Harry, 634 N. Grand Blvd. 3
Ahern, Archibald M., 3915 Watson Road 9
Ahlering, George H., 950 Francis Place 5
Aitken, Louis F., 3720 Washington Blvd. 8
Albrecht, Franklin H., 275 Union Blvd. 8
Alden, Arthur M., 906 Olive St. 1
Aldrich, James T., 2621 Franklin Ave. 6
Alexander, Harry L., 52 Maryland Plaza 8
Allen, Henry C., Clayton Medical Bldg. 5
Allen, Hollis N., 634 N. Grand Blvd. 3
Allen, Melvin A., 3701 Grandel Square 8
Allen, Willard M., 630 S. Kingshighway Blvd. 10
Allen, William E. Jr., 720 N. Sarah St. 8
Altheide, J. Paul, 607 N. Grand Blvd. 3
Alvis, Bennett Y., 100 N. Euclid Ave. 8
Alvis, Edmund B., 100 N. Euclid Ave. 8
Anstey, George, 4660 Maryland Ave. 8
Apicella, Frank V., 762 W. Canterbury Road 32
Arneson, Axel N., 457 N. Kingshighway Blvd. 8
Arney, William G., 16 Hampton Village Plaza 9
Aronberg, Lawrence M., 2120 S. Warson Road 24
Auer, Arthur I., 8505 Gannon Ave. 32
Auer, Edward T., 9 Clayton Ter. 31
Aufderheide, G. Russell, 2326 Noll Drive 36
Austin, Martin G., 119 Summit Place 19
Aylward, Howard J., 410 Dielman Road 32
Azarnoff, Daniel L., 2217 W. 50th St., Shawnee Mission, Kan.
Azuma, Nobutaka, 3901 Tholozan Ave. 16
Azzouni, J. N., 8460 Watson Road 19
Babka, Joseph J., 4933 Potomac Ave. 9
Backer, Matthias H. Jr., 3923 Watson Road 9
Baggot, Michael G., 3010 Nameoki Road, Granite City, Ill.
Bailey, Drennan, 6356 Clayton Road 17
Bailey, Frank A., 3654 S. Grand Blvd. 18
Bailey, Fred W., 4610 23rd Ave. N., St. Petersburg, Fla.
Balazs, Karl J., 3623 Cleveland Ave. 10
Bandle, Donald F., 3801 January St. 19
Banet, Samuel R., 7301 St. Charles Road 33
Banton, William C., 2917 St. Louis Ave. 6
Barden, Frank W., 41 Beaver Drive 41
Bardenheier, J. Phil, 6400 Morganford Road 16
Barker, Jesse W., 5207 Pernod Ave. 9
Barrett, Scott R., 5086 Easton Ave. 13
Bartels, Leo G., 906 Olive St. 1
Bartlett, Robert W., 100 N. Euclid Ave. 8
Bartlett, Willard Jr., 634 N. Grand Blvd. 3
Bartnick, Mitchel L., 7615 S. Broadway 16
Bassett, Robert B., 5427 Delmar Blvd. 12
Bauer, John D., Northland Medical Bldg. 36
Bauer, Maria, 1935 Edison Ave., Granite City, Ill.
Bauer, Otto, 1935 Edison Ave., Granite City, Ill.
Baumann, William B., 5535 Delmar Blvd. 12
Baumgarten, Walter Jr., 3720 Washington Blvd. 8
Bawell, Malcolm B., 4660 Maryland Ave. 8
Beare, J. Byron, 3720 Washington Blvd. 8
Beato, David L., 4149 Cleveland Ave. 10
Becke, William G., 3720 Washington Blvd. 8
Becker, Bernard, 640 S. Kingshighway Blvd. 10
Becker, Edward J., 906 Olive St. 1
Becker, George H., 4500 Olive St. 8
Becker, Stanley C., 8110 Roxburgh Drive 24
Beckette, Edmund S., 950 Francis Place 5
Beckman, Donald E., 4205 Virginia Ave. 11
Behrens, Donald T., 6 Thorndell Drive 17
Behrens, Gerald L., 3 Colonial Court 24
Belew, Joe E., APO 178, 11th Field Hospital, New York, N. Y.
Bell, Robert M., 3720 Washington Blvd. 8
Benage, Clarence M., 8604 White Ave. 17
Benincasa, Anthony V., 3400 N. Kingshighway Blvd. 15
Benjamin, Durand, 7430 Virginia Ave. 11
Benjamin, Richard D., 2933 B. Bomarc St., Tyndall AFB, Fla.
Bennett, Thomas T., 609 Selling Blvd., Portland, Ore.
Berard, Louis N., 812 Olive St. 1
Berg, Leonard, 52 Maryland Plaza 8
Berg, Ralph, 3202 S. Grand Blvd. 18
Bergman, Hugo F., 3720 Washington Blvd. 8
Bergner, Grace E., 114 N. Taylor Ave. 8
Berland, Harry I., 812 Olive St. 1
Berman, Joseph P., 1225 N. Grand Blvd. 6
Berman, William, 4919 Forest Park Blvd. 8
Bernard, Harvey R., 4960 Audubon Ave. 10
Berry, John W., 950 Francis Place 5
Bersche, Bertram L., 5214 Pernod Ave. 9
Bettonville, Paul J. Jr., 6331 Pershing Ave. 30
Bilsky, Nathan, 4511 Forest Park Blvd. 8
Bindbeutel, Arthur H., 5203 Chippewa St. 9
Bindbeutel, Donald A., 630 Westborough Place 19
Binder, Morton A., 4652 Maryland Ave. 8
Bircher, John L., 3932 Federer Place 16
Birdsall, Thomas C., 4660 Maryland Ave. 8
Birsner, Louis J., 634 N. Grand Blvd. 3
Bisno, Daniel, 8000 Bonhomme Road 5
Blache, J. Owen, 4924 Lotus Ave. 13
Blair, Vilray P. Jr., 9 Stoney Brook Lane 24
Blalock, Willian N., 114 N. Taylor Ave. 8
Bleyer, Adrien S., Northland Medical Bldg. 36
Block, Arnold S., 4919 Buckingham Court 8
Bock, Lux H., 1504 S. Grand Blvd. 4
Bockelman, Clifford H., 2615 Brentwood Blvd. 17
Boedeker, Roy V., 100 N. Euclid Ave. 8
Boemer, Lilburn C., 3720 Washington Blvd. 8
Boggs, Roy E., 1515 Lafayette Ave. 4
Bohne, William R., 4500 Olive St. 8
Bohrer, Harry C., 607 N. Grand Blvd. 3
Boldizar, Albert G., 3720 Washington Blvd. 8
Boldt, Thomas H., Northland Medical Bldg. 36
Bolton, Robert L., 829 Medical Group, Larson AFB, Wash.
Bond, Leslie F., 5801 Easton Ave. 12
Bondurant, Bryce H., 134 Frontenac Forest 31
Bonfanti, Albert L., 3225 Longfellow Blvd. 4
Boswell, John R., 12918 Topping Estates,
Bouhasin, John D., 138 N. Meramec Ave. 5
Boucher, Robert E., 5907 Suson Place 39 North Drive 31
Bowdern, Edward H., 2 Berkshire Lane 17
Bowen, Stephen F. Jr., 16 Hampton Village Plaza 9
Bowerman, Harold H., 607 N. Grand Blvd. 3
Bowersox, Warren A., 214 N. First St., Pacific
Bowles, G. Robert, 634 E. Adams Ave. 22
Bowles, William T., 7608 Maryland Ave. 5
Boyd, Arthur M., 1703 S. Grand Blvd. 4
Bradley, Frank R., 600 S. Kingshighway Blvd. 10
Bradley, Richard V., 110 S. Central Ave. 5
Bremser, Harry L., 1105 Tower Grove Ave. 10
Brennan, George A., 3654 S. Grand Blvd. 18
Brennan, Robert A., 3654 S. Grand Blvd. 18
Brennan, Robert V., 12048 Berkley Manor Drive 31
Brereton, Robert L., 206 N. Clay Ave. 35
Bricker, Eugene M., 100 N. Euclid Ave. 8
Brittingham, Thomas E., 6242 Waterman Ave. 5
Brodeur, Armand E., 141 Horseshoe Drive 22
Bronson, Shael S., 100 N. Euclid Ave. 8
Brookes, Henry S. Jr., 37 Algonquinwood Place 22
Brookes, Robert D., 4652 Maryland Ave. 8
Brooks, Arthur C., 60 Kingsbury Place 12
Broun, Goronwy O., 1325 S. Grand Blvd. 4
Broun, Goronwy O. Jr., 6359 Waterman Ave. 5
Brown, E. Eugene, 379 N. Taylor Ave. 8
Brown, James B., 100 N. Euclid Ave. 8
Brown, James L., 5400 Arsenal St. 39
Brown, Seymour, 2 Ricardo Lane 24
Bruce, Helen L., 3263 Hawthorne Blvd. 4
Bruns, Kenneth, 6318 Washington Blvd. 30
Bryan, James H., 950 Francis Place 5
Bryan, William T. K., 950 Francis Place 5
Budd, John J. Jr., 9313 Manchester Road 19
Bulger, Harold A., 4405 West Pine Blvd. 8
Burford, Cyrus E., 812 Olive St. 1
Burford, E. Humber, 812 Olive St. 1
Burke, Robert J., 6379 Devonshire Ave. 9
Burkhart, Edward F., 634 N. Grand Blvd. 3
Burmeister, R. William, 9308 Buxton Drive 26
Burns, Francis J., 4660 Maryland Ave. 8
Burst, Donald O., 6500 Chippewa St. 9
Busch, Anthony K., 16 Hampton Village Plaza 9
Butcher, Harvey R. Jr., 4960 Audubon Ave. 10
Byars, Louis T., 100 N. Euclid Ave. 8
Byrne, John E., 4660 Maryland Ave. 8
Byrne, Paul A., 4211 Bayless Ave. 23
Caciolo, Carlo, 1325 S. Grand Blvd. 4
Cadice, John B., 8835 McNulty Drive 14
Calkins, Delevan, 8505 Delmar Blvd. 24
Callahan, Joseph D., 7227 St. Andrews Road 21
Calodney, Martin M., 7247 Delmar Blvd. 5
Camel, H. Marvin, 310 Tanglewood Drive 24
Campbell, Cecil S., 812 Olive St. 1
Campos, Francisco J., 100 N. Euclid Ave. 8
Cannon, Edward M., 607 N. Grand Blvd. 3
Cappel, Powel B., 3284 Ivanhoe St. 39
Caravelli, Anthony F., 8015 Audrian Drive 21
Carlin, M. Richard, 100 N. Euclid Ave. 8
Carney, Roscoe P., 1515 Lafayette Ave. 4
Carr, Archie D., 3720 Washington Blvd. 8
Carroll, George A., 607 N. Grand Blvd. 3
Carroll, Grayson, 3720 Washington Blvd. 8
Carter, John F., 15 Friese Drive 32
Cary, John M., 3720 Washington Blvd. 8
Cason, Elbert H., 4401 Hampton Ave. 9

Cassel, Melvin A., 3400 N. Kingshighway Blvd. 15
Catanzaro, Anthony F., 2705 Clifton Ave. 39
Catanzaro, Francis J., 6212 McPherson Ave. 30
Chamness, James T., 3 Town & Country Drive 24
Charles, Benjamin H., 3720 Washington Blvd. 8
Charles, Cecil M., 110 S. Central Ave. 5
Charnas, Raymond M., 607 N. Grand Blvd. 3
Cherre, Anthony J., 950 Francis Place 5
Cherre, Charles J., 10 Haddington Court 5
Chieffi, Margaret, 3720 Washington Blvd. 8
Ciapciak, Stanley J., 1901 Madison St. 6
Cibis, Paul A., 4511 Forest Park Blvd. 8
Clark, Clarence L., 95 Pebblebrook Lane 41
Clark, J. Fred W., 864 Hamilton Ave. 12
Claseman, Wilma W., 1320 Market St. 3
Cleary, Frank, 1935 Park Ave. 4
Cleveland, Horace F., 1325 Somerset Place, Long Beach, Calif.
Clithero, William H., 1763 Royal Oaks Drive, Duarte, Calif.
Coffin, Ernest L., 145 Vassar Drive, Lake Worth, Fla.
Cohen, Benjamin H., 138 N. Meramec Ave. 5
Cohen, Louis, 950 Francis Place 5
Cole, William R., 1401 Lawnwood Drive 23
Collodi, George A., 20 Southcote Drive 17
Comens, Phillip, 6500 Chippewa St. 9
Comens, Ruth C., 8715 Gayle Ave. 26
Conrad, Adolph H. Jr., 3720 Washington Blvd. 8
Conrad, Marshall B., 41 N. Central Ave. 5
Cook, Jerome E., 4409 West Pine Blvd. 8
Cook, Ralph L., 44 Nolan Drive 22
Cooper, Henry T., 818 Olive St. 1
Cooper, Theodore, 934 Coffey Drive 26
Cooper, Thomas J., 100 N. Euclid Ave. 8
Copher, Glover H., 600 S. Kingshighway Blvd. 10
Copp, Ralph Jr., 3720 Washington Blvd. 8
Cordonnier, Justin, 4960 Auduhon Ave. 10
Correnti, Nicholas A., 100 N. Euclid Ave. 8
Costa, Dominic V., 16 Hampton Village Plaza 9
Costello, Cyril J., 100 N. Euclid Ave. 8
Costello, Joseph P. Jr., 57 Berkshire Ave. 17
Costen, William S., 20 Berkley Lane 24
Coughlin, Bertrand D., 634 N. Grand Blvd. 3
Cox, Mary E., 4500 West Pine Blvd. 8
Coxe, William S., 600 S. Kingshighway Blvd. 10
Coyle, Frank L., 3555 Bingham Ave. 11
Crego, Clarence H. Jr., 634 N. Grand Blvd. 3
Criscione, James R., 4273 Flora Place 10
Crossman, Robert W., 1509 Holly Drive 19
Crowell, Hugh C., 9764 Tesson Ferry Road 23
Cummings, James H., 424 N. Euclid Ave. 8
Curran, George L., 2020 W. 56th St., Shawnee Mission, Kan.
Cutler, Harold M., 150 N. Meramec Ave. 5
Czebrinski, Edward W., 3701 Grandel Square 8
Daake, John W., 48 Portland Place 8
Dabbs, LeRoy, 1420 N. Taylor Ave. 13
Dahms, Gustave, 1452 S. Grand Blvd. 4
Dalton, Arthur R., 4500 Olive St. 8
Daman, George A., 6500 Chippewa St. 9
Dames, Richard J., 15 York Drive 17
Danis, Peter G., 150 N. Meramec Ave. 5
Dankner, Arnold, 150 N. Meramec Ave. 5
Davidson, John D., 600 Union Blvd. 8
Davie, Joseph, 4615 Lindell Blvd. 8
Davis, Frank L., 6123 Westminster Place 12
Davis, Martin W., 490 Oakwood Ave. 19
Deakin, Rogers, 607 N. Grand Blvd. 3
Demko, Frank, 2330 S. 9th St. 4
Demko, William, 12214 Mentz Hill Road 28
Denk, Alan F., 8909 Wrenwood Lane 17
Devine, John B., 85 Willmore Road 9
Devine, Joyce E., 7107 Washington Ave. 30
Dewald, Paul A., 4524 Forest Park Blvd. 8
Dewein, Edward G., 1081 Raritan Drive 19
Dickerson, Omar B., 5535 Delmar Blvd. 12
Diehr, Alvin H., 634 N. Grand Blvd. 3
Diemer, Peter A., 710 Wingan Lane 25
DiLeo, Senatro W., Northland Medical Bldg. 36
Dmytryk, Eugene T., 607 N. Grand Blvd. 3
Dobrow, David O., 7114 Horner Ave. 17
Dodd, Robert B., 600 S. Kingshighway Blvd. 10
Dolan, John T. Jr., 619 Villa Gardens Drive 22
Donahoe, James L., 7336 Princeton Ave. 5
Donaldson, Robert C., 915 N. Grand Blvd. 6
Donati, Robert M., 5335 Botanical Ave. 10
Dorsett, E. Lee, Seymour Drive, Indianola, Miss.
Doubek, John C., 2767 Gravois Ave. 18
Doyle, Charles R., 634 N. Grand Blvd. 3
Drace, Charles C., 3702 Gravois Ave. 16
Drace, Charles C. Jr., 19 E. Lockwood Ave. 19
Drake, Truman G., 114 N. Taylor Ave. 8
Drake, William L. Jr., 307 S. Euclid Ave. 10
Drennan, James A., 1433 Cedar St., San Leandro, Calif.
Drews, Robert C., 508 N. Grand Blvd. 3
Drey, Norman W., 634 N. Grand Blvd. 3
Dreyer, Carl J., 45 Glen Road 19
Dubuque, Theodore J. Jr., 634 N. Grand Blvd. 3
Duden, Charles W., 3720 Washington Blvd. 8
Duemler, John H., Gladden
Duffy, Francis G., 7615 Carondelet Ave. 5
Dunn, Robert E., 7201 Hampton Ave. 9
Dunphy, Robert N., 1319 Grant Road 19
Dworkin, Saul 1657 S. Grand Blvd. 4
Dyer, Dallas J., 3915 Watson Road 9
Eades, Dee W., 7602 S. Broadway 11
Eagleton, Mark D., 950 Francis Place 5
Earp, Ralph K., Northland Medical Bldg. 36
Eberle, John P., Glenhaven Drive 22
Eberle, Vincent L., 4952 Maryland Ave. 8
Echterhoff, Harry R., 310 Honeysuckle Lane 19
Eck, Birkle, 1819 Camberly Road 31
Eckert, Clarence T., 457 N. Kingshighway Blvd. 8
Ecklund, Archibald M., 2225 Willow St., San Diego, Calif.
Edele, Eugene H., 4971 Chippewa St. 9
Edwards, Joseph C., 610 W. Polo Drive 5
Egan, Thomas F., 4065 Germania Ave. 16
Egley, Loren E., 1695 S. Brentwood Blvd. 17
Eigel, Edwin G., 3438 S. Grand Blvd. 18
Eimer, Charles E., 4500 Olive St. 8
Ellersieck, Dorothy M., 10695 Bellefontaine Road 15
Emmert, Fred V., 508 N. Grand Blvd. 3
Engman, Martin F. Jr., 3720 Washington Blvd. 8
Epp, George J., 3807 Bowen St. 16
Erlanger, Joseph, 5127 Waterman Ave. 8
Ernst, Edwin C., 3720 Washington Blvd. 8
Ernst, Edwin C. Jr., 3720 Washington Blvd. 8
Ernst, Richard E., 3720 Washington Blvd. 8
Ernst, Roland P., 3720 Washington Blvd. 8
Eskeles, Irwin H., 4500 Olive St. 8
Esker, George, State Hospital No. 3, Nevada
Esslinger, Arthur T., 457 N. Kingshighway Blvd. 8
Eto, Jackson, 6500 Chippewa St. 9
Eyermann, Charles H., 634 N. Grand Blvd. 3
Farley, William M., 3654 S. Grand Blvd. 18
Farrar, John T., 78 Mayo Ave., Greenwich, Conn.
Farrell, Robert J., 634 N. Grand Blvd. 3
Feinstein, Leon A., 6411 Wydown Blvd. 5
Feller, Harold H., 2739 N. Grand Blvd. 6
Fellhauer, Carl M., 950 Francis Place 5
Finger, Donald H., 4919 Forest Park Blvd. 8
Fink, LeRoy L., 634 N. Grand Blvd. 3
Finn, Murray E., 906 Olive St. 1
Finnegan, Joseph V., 634 N. Grand Blvd. 3
Fischer, Erich, 7448 Ahern Ave. 30
Fish, Virgil O., 2500 Town & Country Lane 31
FitzGerald, Leo P., 6677 Delmar Blvd. 5
Fitzgerald, William T., 3915 Watson Road 9
Flance, Israel J., 4652 Maryland Ave. 8
Flavan, David B., 539 N. Grand Blvd. 3
Fleishman, Alfred, 15 N. Brentwood Blvd. 5
Flotte, Bernard H., Northland Medical Bldg. 36
Flotte, Sylvester A., Northland Medical Bldg. 36
Flynn, Edward P., 9730 E. Watson Road 26
Flynn, John T., 1715 S. 39th St. 10
Flynn, Joseph E., 1617 S. Brentwood Blvd. 17
Ford, Lee T. Jr., 45 Green Acres 15
Forsen, James A., 3903 Olive St. 8
Forster, Armand C., 1504 S. Grand Blvd. 4
Forti, John J., 4703 Carter Ave. 15
Foster, Howard M., 12570 Fee Fee Road 41
Foster, Leon, 634 N. Grand Blvd. 3
Fox, Robert E., 4161 Lindell Blvd. 8
Frank, Alvin R., 7457 Cromwell Drive 5
Franklin, Max S., 607 N. Grand Blvd. 3
Fraser, Richard A., 5535 Delmar Blvd, 12
Frederick, Raymond O., 7442 Wellington Way 5
Freedman, Harold, 607 N. Grand Blvd. 3
Freedman, Ruth S., 607 N. Grand Blvd. 3
Freeman, David M., 7316 Kingsbury Ave. 5
Freimuth, Louis E., 607 N. Grand Blvd. 3
Frerking, Herbert W., 5535 Delmar Blvd. 12
Freund, Felix G., 1114 Elm Drive 19
Freund, Samuel J., 4409 West Pine Blvd. 8
Friedenberg, Marvin J., 1418 Faris Ave. 30
Friedman, Bernard, 457 N. Kingshighway Blvd. 8
Fries, Armand D., 812 Olive St. 1
Fries, John W., 106 Frontenac Forest 31
Friskel, Arthur K., 7422 Devonshire Ave. 19
Freyer, Minot P., 100 N. Euclid Ave. 8
Funsch, Robert E., 11 Lynnbrook Road 31
Furla, Gus J., 57 Broadview Drive 5
Furlow, Leonard T., 3720 Washington Blvd. 8
Gaffney, Caldwell J., 4959 Northland Place 13
Gafney, George T., 400 Purdue Ave. 30
Gagliardo, Joseph, 4209 Santen Drive 23
Gallagher, Neil I., 7322 Cornell Ave. 30
Gandlmayr, Jack M., 3400 N. Kingshighway Blvd. 15
Gansloser, Maximilian W., 3624 Arsenal St. 16
Gansloser, Wilbert M., 950 Francis Place 5
Gantner, George E. Jr., 1325 S. Grand Blvd. 4
Gantz, John A., 6106 Willow Bend Drive 23
Garfinkel, Bernard T., 3720 Washington Blvd. 8
Gay, Andrew J., 7330 Pershing Ave. 30
Gedney, William B., 806 Meramec Station Road, Valley Park
Geise, August W. Jr., 1517 Sixth St. S. E., Minneapolis, Minn.
Geisler, Gerald F., 1325 S. Grand Blvd. 4
Gentsch, Kenneth W., 3249 Sulphur Ave. 39
Gerst, Aloysius C., 1453 McLaran Ave. 15
Gibbons, Edward H., 3606 Gravois Ave. 16
Gibson, Helen F., 5612 Cates Ave. 12
Gildea, Edwin F., 4940 Audubon Ave. 10
Gildea, Margaret C. L., 4500 W. Pine Blvd. 8
Gilden, Jerome J., 4919 Forest Park Blvd. 8
Gillespie, William J., 3720 Washington Blvd. 8
Gilpin, Doris C., 6908 Millbrook Blvd. 30
Gissy, Charles J., 508 N. Grand Blvd. 3
Gladney, John H., 4903 Easton Ave. 13
Glaser, Martin J., 506 Olive St. 1
Glass, Robert L., 9536 Plainfield Drive 36
Glassberg, Bertrand Y., 5850 Waterman Ave. 12
Glennon, William P., 607 N. Grand Blvd. 3
Glick, Harry N., 6500 Chippewa St. 9
Gnade, Albert J., 3606 Gravois Ave. 16
Goebel, Joan M., 5128 Jamieson Ave. 9
Goell, Robert S., 5027 Westminster Place 8
Goettman, William I., 19 Boatner Drive, Eglin AFB, Fla.
Goldenberg, Sidney, 4409 West Pine Blvd. 8
Goldenson, Max J., 508 N. Grand Blvd. 3
Goldfarb, Alvin, 23 Bon Hills Drive 32
Goldman, Alfred, 634 N. Grand Blvd. 3
Goldman, Arnold M., 634 N. Grand Blvd. 3
Goldman, Melvin L., 634 N. Grand Blvd. 3
Goldring, Sidney, 600 S. Kingshighway Blvd. 10
Goldstein, Marcy A., 6943 Columbia Place 30
Gomez, Cesar A. Jr., 3654 S. Grand Blvd. 18
Gorham, Arwin E., 915 N. Grand Blvd. 6
Gorla, Wayne O., 100 N. Euclid Ave. 8
Graneto, Joseph A., 5521 S. Broadway, 11
Grant, John M., 114 N. Taylor Ave. 8
Grant, Neville, 114 Taylor Ave. 8
Grant, Samuel B., 114 N. Taylor Ave. 8
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Graul, Walter P., Northland Medical Bldg. 36
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Grebel, Clement B., 16 Hampton Village Plaza 9
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Green, Daniel M., 8877 Ladue Road 24
Green, William R., 7200 Manchester Ave. 17
Gresick, Robert J., 5475 Childress Ave. 9

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Gummels, Belmont B., 7359 Dale Ave. 17
Gunn, Walter T., 4617 Dahlia Ave. 16
Guze, Samuel B., 4940 Audubon Ave. 10
Gzell, Ronald, 5189 Kensington Ave. 8
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Hackmeyer, Rubin, 4065 S. Grand Blvd. 18
Haddock, James N., 111 Firwood Drive 19
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Hagebusch, Omer E., 100 N. Euclid Ave. 8
Hall, Andy Jr., 607 N. Grand Blvd. 3
Hall, Lee A., 35 N. Central Ave. 5
Hall, Preston C., 3902 Lafayette Ave. 10
Hall, Robert A., 43 Washington Ter. 12
Hall, William K., 100 N. Euclid Ave. 8
Hamilton, Eugene G., 950 Francis Place 5
Hammond, John J., 634 N. Grand Blvd. 3
Hampton, Henry E., 2345 Pine St. 3
Hampton, Stanley F., 3720 Washington Blvd. 8
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Hanlon, C. Rollins, 1325 S. Grand Blvd. 4
Hanna, Richard E., 5535 Delmar Blvd. 12
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Hardy, Joseph A., 4952 Maryland Ave. 8
Harell, Alex, 634 N. Grand Blvd. 3
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Harkins, William B., 3720 Washington Blvd. 8
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Harrison, Lee B., 44 Ridgemoor Drive 5
Harting, Hugh R., 3715 Washington Blvd. 8
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Hartmann, Alexis F., 500 S. Kingshighway Blvd. 10
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Hassett, Henry A., 607 N. Grand Blvd. 3
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Hogan, Patrick C., 2623 Telegraph Road 25
Holbrook, Charles K., 9901 Diamond Drive 15
Hollo, Vencel W., 4960 Laclede Ave. 8
Holt, Earl P. Jr., 7160 Washington Ave. 5
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Cutler, Harry, 4511 Forest Park Blvd. 8
Daughaday, William H., 600 S. Kingshighway Blvd. 10
Davidson, Morris, 35 N. Central Ave. 5
Davis, Edgar W., 3720 Washington Blvd. 8
Davis, Irl R., 1506 Hodiamont Ave. 12
Dean, Lee W. Jr., 9067 Clayton Road 17
DeHovitz, Bernard, 950 Francis Place 5
Deitchman, Robert B., 4511 Forest Park Blvd. 8
Deutch, Max, 8515 Delmar Blvd. 24
Deyton, John W., 1617 S. Brentwood Blvd. 5
Dickler, Donald J., 833 Audubon Drive 5
Diehr, Maurice A., 9385 Page Blvd. 14
Dill, Foster A., 7346 Manchester Ave. 17
Doisy, Robert A., 103 Edwin Ave. 22
Donley, Leo F. Jr., 2739 N. Grand Blvd. 6
Dowd, James F. Jr., 30 W. Brentmoor Park 5
Drescher, Emmett B., 3720 Washington Blvd. 8
Drum, Helen M. A., 1412 Spoede Road 24
Duane, George W., 9105 Sioux Drive 23
Duggan, John J. Jr., 333 S. Kirkwood Road 22
Dulick, Michael, 9012 Manchester Road 17
Ebel, Eugene H., 10011 Bellefontaine Road 15
Eber, Carl T., 611 Olive St. 1
Ecker, Decider B., Pacific
Efron, Joseph, 1116 Olivaire Lane 32
Eidelman, Jack R., 4652 Maryland Ave. 8
Eisenstein, Albert B., 818 S. Meramec Ave. 5
Eller, C. Howe, 801 S. Brentwood Blvd. 5
Ellis, Calvin C., 11627 Fallbrook Drive 31
Ellison, Leroy E., 7346 Myrtle Ave. 17
Elson, Julius, 5 Granada, La Hacienda 24
Emerson, Reynolds L., 1695 Brentwood Blvd. 17
Ernst, Joseph G., 68 Fortune Lane 22
Estes, Jack M., 8307 Jennings Road 36
Eversoll, Norton J., 1455 Tyler St., Hollywood, Fla.
Fairshter, Alex E., 9 Blackpool Lane 32
Falk, O. P. J., 3 Southmoor Drive 5
Feldaker, Robert M., 817 N. McKnight Road 32
Feldman, David, 150 N. Meramec Ave. 5
Ferrara, John P., Northland Medical Bldg. 36
Fingerhood, Marvin G., 1434 Chambers Road 35
Fingert, H. H., 12 Hortense Place 8
Finkel, Barney W., 6510 W. Florissant Ave. 20
Finley, Freeman L., 2475 Hartland Ave. 14
Fletes, James W., 5601 Lindell Blvd. 12
Fleming, Paul D., 110 S. Central Ave. 5
Flynn, Thomas T., 150 N. Meramec Ave. 5
Forsman, Waldo W. Jr., 4128 S. Lindbergh Blvd. 26
Forsyth, B. Todd, 100 N. Euclid Ave. 8
Foster, Robert L., 5641 Sutherland Ave. 9
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Franklin, Harold A., 606 S. Meramec Ave. 5
Freiheit, Harold J., 3 Devondale Lane 31
Friedman, Robert H., 150 N. Meramec Ave. 5
Froelich, Edwin J., 7321 Overbrook Drive 21
Fuchs, George J., 1 Fawnridge Court, Creve Coeur
Gaines, Quentin M., 136 W. Mermod St. 22
Gale, Philip R., 9216 Clayton Road 24
Gall, Ira, 201 S. Central Ave. 5
Gaston, Ralph E., 1 Lynnbrook Road 31
Gaunt, Frank P., 203 W. Cedar Ave. 19
Gay, Elizabeth K., 2221 Duchess Drive 36
Gearhart, Wilbur H., 25 Graeson Court 41
Gibstine, Marvin H., 10517 St. Charles Rock Road 14
Gieselman, Ralph V., 4952 Maryland Ave. 8
Gitt, Joseph J., 1025 S. Warson Road 24
Goldman, Hyman J., 457 N. Kingshighway Blvd. 8
Gollub, Samuel W., 8112 Delmar Blvd. 30
Goodman, J. N., 9 Frederick Lane 22
Goodman, Nathaniel, 8307 Jennings Road 36
Goodrich, Harold A., 19 E. Lockwood Ave. 19
Gowen, Leo F., 1114 Cheshire Lane 19
Grabau, Gene H., 8036 N. Broadway 15
Graeser, Richard G., Arcade Bldg. 1
Gray, Walter C., 8711 St. Charles Road 14
Green, Manuel E., 1625 Tower Grove Ave. 10
Greenman, Marshall B., 950 Francis Place 5
Griot, Albert J., 4056 Toenges Ave. 16
Gronau, Axel R., 7062 Waterman Ave. 30
Grundmann, William H., 634 N. Grand Blvd. 3
Hagemann, Paul O., 3720 Washington Blvd. 8
Hale, Tyre H., 301 N. Forsyth Blvd. 5
Hall, Eugene W., 116 S. Florissant Road 35
Halpern, Lawrence K., 950 Francis Place 5
Hamilton, Caldwell K., 35 N. Central Ave. 5
Hampton, Oscar P. Jr., 8153 Stanford Court 30
Hamtil, Edward W., 1504 S. Grand Blvd. 4
Hardy, Guerdan, 110 S. Central Ave. 5
Harrington, William J., 600 S. Kingshighway Blvd. 10
Harris, Charles W., 5298 Page Blvd. 13
Harris, Hinman A., 7331 Canton St. 30
Harrison, Stanley L., 16 Devondale Lane 31
Hasenmueller, James J., 601 S. Brentwood Blvd. 5
Hauptmann, William L., 10695 Bellefontaine Road 37
Hawkins, Lee W., 1 Clarkson Road, Chesterfield
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Helbing, Edward J., 950 Francis Place 5
Hendin, Aaron, 9636 Old Bonhomme Road 32
Hengen, Henry E., 11223 St. Charles Rock Road, Bridgeton
Hershey, Falls B., 6621 Waterman Ave. 30
Hertel, Albert L., 5212 Miami St. 9
Hobbs, Alonzo G., 4101 Olive St. 8
Hobbs, John E., 630 S. Kingshighway Blvd. 10
Hofsommer, Armin C., 639 Lee Ave. 19
Hogancamp, Charles E., 135 W. Adams Ave. 22
Hogancamp, Glenn E., 736 Smith Drive, Ballwin
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Howe, Albert L., 601 S. Brentwood Blvd. 5
Howe, Louis F., 8806 Harrison Ave. 17
Huck, Frank F., 408 Gravois Road, Fenton
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Irick, Carl C., 227 E. Lockwood Ave. 19
Izmirlian, Grant, 731 E. Big Bend Blvd. 22
Jacobs, Frederick A., 111 Church Road 35
Jick, Sidney, 457 N. Kingshighway Blvd. 8
Johnson, Roy, 40 N. Florissant Road 35
Jones, Dorothy J., 110 S. Central Ave. 5
Jones, James B., 9335 Sonora Ave. 17
Jones, Victor, 2240 St. Clair Ave. 17
Jotte, Richard F., 10300 St. Charles Road 14
Kahn, Lawrence, 150 N. Meramec Ave. 5
Kardesch, Milton, 9316 Lodge Pole Lane 26
Karsh, Robert S., 7514 Oxford Drive 5
Kaskie, Clifford R., 35 N. Central Ave. 5
Kendis, Joseph B., 4511 Forest Park Blvd. 8
Kessler, Joseph J., 9 Ladue Estates 41
Kessler, Sheldon, 390 W. St. Anthony Lane, Florissant
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Kilker, Donald E., 3121 N. Grand Blvd. 7
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Kloecker, Herman J., 9616 Lackland Ave. 14
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Koch, Robert E., 35 N. Central Ave. 5
Koerner, Kenneth A., 950 Francis Place 5
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Konzelmann, John A., 6677 Delmar Blvd. 30
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McClure, David N., 950 Francis Place 5
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McNalley, Michael, 950 Francis Place 5
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Magee, William E., 4952 Maryland Ave. 8
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Magness, Guy N., 6651 Enright Ave. 30
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Nussbaum, Robert A., 3701 Grandel Square 8
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O'Neal, Patricia, 4580 Scott Ave. 10
Ott, Harold J., 2816 Sutton Ave. 17
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Paris, William H., 1321 N. Grand Blvd. 7
Park, George M., Rt. 3, Chesterfield
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Pawol, S. E., 2573 Woodson Road 14
Peebles, J. B. Jr., 135 W. Adams Ave. 22
Pennoyer, James, 117 Plant Ave. 19
Perry, H. Mitchell, 31 Hill Drive 22
Perry, William D., 100 N. Euclid Ave. 8
Peterson, Frederick D., 8225 Clayton Road 17
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Reese, A. Victor, 120 E. Lockwood Ave. 19
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Reinhard, Edward H., 235 Sylvester Ave. 19
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Rennard, Marvin, 4652 Maryland Ave. 8
Repp, Theodore J., 9311 Duenke Drive 37
Reynolds, Fred, 4960 Audubon Ave. 10
Riggio, Salvatore N., 9901 Gravois Road 23
Roberts, Harold K., 110 S. Central Ave. 5
Roberts, John P., Barrett Station Road 22
Roberts, John R., 100 N. Euclid Ave. 8
Robertson, Frank G., 634 N. Grand Blvd. 3
Robinson, Edith C., 2 Briar Oak 32
Roblee, Melvin A., 101 S. Meramec Ave. 5
Rogers, C. H., 812 Olive St. 1
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Roodman, Herman J., 15 N. Brentwood Blvd. 5
Roos, Albert, 1040 Sylvan Place 22
Rosecan, Marvin, 100 N. Euclid Ave. 8
Rosenbaum, Herbert E., 100 N. Euclid Ave. 8
Rosenstein, Daniel L., 216 S. Kingshighway Blvd. 10
Roufa, Joseph F., 539 N. Grand Blvd. 3
Rouse, Ernest T., 100 N. Euclid Ave. 8
Rubenstein, Melvin, 4919 Buckingham Court 8
Rubin, Robert, 8515 Delmar Blvd. 30
Ruhling, Rudy, 5203 Chippewa St. 9
Ryan, John J., 28 Ridgetop 17
Salisbury, William J., 445 Bellerive Blvd. 11
Saltzstein, Sidney, 1033 Loma Ave., Coronado, Calif.
Schattyn, Martyn, 539 N. Grand Blvd. 3
Schechter, Samuel E., 8000 Bonhomme Road 5
Scheele, Paul M., 411 N. Kirkwood Road 22
Schlansky, Seymour M., 7247 Delmar Blvd. 30
Schluer, Elmer P., 3720 Washington Blvd. 8
Schmidt, Edmund M., 6704 W. Florissant Ave. 20
Schneider, Sam, 4652 Maryland Ave. 8
Schopp, Alvin C., 634 N. Grand Blvd. 3
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Schuman, Stanley H., 1427 E. Park Place, Ann Arbor, Mich.
Schupmann, Gustav A., Box 128, R. 2, Chesterfield
Schwartz, Melvin M., 4652 Maryland Ave. 8
Schwartzman, Bernard, 4652 Maryland Ave. 8
Seabaugh, Ottis D., 105 W. Lockwood Ave. 19
Seabold, John A., 408 Mission Court 30
Shatz, Burton A., 4652 Maryland Ave. 8
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Silverberg, Charles, 45 Rio Vista Drive 24
Simril, Wayne A., 35 N. Central Ave. 5
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Skilling, David M. Jr., 18 S. Kingshighway Blvd. 8
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Smit, Herbert M., 539 N. Grand Blvd. 3
Smith, George E., 637 Tarrymore Lane 22
Smith, Jack I., 801 S. Brentwood Blvd. 5
Sommer, Ross B., 100 N. Euclid Ave. 8
Spector, Gene W., 216 S. Kingshighway Blvd. 10
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Spitzer, Ernest, 6637 Kingsbury Blvd. 30
Spoeneman, Marlin C., 7380 Overbrook Drive 21
Staehle, Melvin E., 7124 Natural Bridge Road 20
Stein, Harry J., 6917 W. Florissant Ave. 20
Stein, Leonard A., 2618 Oregon Ave. 18
Steiner, Alexander J., 3720 Washington Blvd. 8
Stephens, William A., 462 N. Taylor Ave. 8
Sterling, John A., 1230 Kenmore Drive 22
Stevens, Robert W., 9311 Duenke Drive 37
Stewart, Frances H., 7161 Delmar Blvd. 30
Stickle, A. W., 6829 Clayton Ave. 10
Strauchen, Gilbert W., 337 W. Lockwood Ave. 19
Stude, William C., 16 Hampton Village Plaza 9
Stuebner, Roland W., 35 N. Central Ave. 5
Suba, Antonio R., 950 Francis Place 5
Susman, Irvin C., 216 S. Kingshighway Blvd. 10
Sutphin, John B., 111 Church Road 35
Sutter, Richard A., 7215 Greenway Ave. 30
Tashma, Sigmund, 5847 Pershing Ave. 12
Teiber, Frederick W., 3201 Washington Blvd. 3
Thiele, Belmont R., 10261 Thornwood Drive 24
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Tobias, Norman, 634 N. Grand Blvd. 3
Tomlinson, William L., 357 Violet Lane 19
Torin, Bernice A., 951 Old Bonhomme Road 32
Townsend, James A., 915 DeMun Ave. 5
Townsend, Vincent F., 7532 Byron Place 5
Tremain, E. E., 2901 Big Bend Blvd. 17
Tremain, Robert C., 7 Radnor Road 22
Trueblood, Alva C. Jr., 325 N. Kirkwood Road 22
Trunko, Leo, 1900 Telegraph Road 23
Tureen, Louis L., 457 N. Kingshighway Blvd. 8
Turner, James K., 101 S. Meramec Ave. 5
Ulett, Pearl C., 54 Picardy Lane 24
Valach, Frank J., 1617 S. Brentwood Blvd. 17
Vanderpearl, Robert H., 851 Edlin Drive 22
Vatterott, Paul B., 10300 St. Charles Rock Road 14
Viers, Wayne A., 135 W. Admas St. 22
Vinyard, Paul, 3718 Olive St. 8
Viraghaty, Julius G., 5176 Eichelberger St. 9
Vitale, Anthony J., 7130 Natural Bridge Road 34
Vitale, Nicholas S., 7130 Natural Bridge Road 34
Vizgird, J. J., 3511 University Ave. 7
Vollmar, Clarence J., 8787 Big Bend Blvd. 19
Votaw, Robert E., 10 Warson Ter. 24
Walker, Harvey Jr., 6924 Waterman Ave. 30
Walker, Willard B., 110 S. Central Ave. 5
Wall, Albert, 5322 Helen Ave. 20
Walter, William L., 135 W. Adams St. 22
Walther, Roy A. Jr., 7 High Acres 32
Waters, E. B., 126 E. Jefferson Ave. 22
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Weitman, Maximilian, 3530 Arsenal St. 18
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Werth, Duncan S., 233 N. Sappington Road 22
West, Joseph W., 906 Olive St. 1
Westrup, Arthur W., 8540 E. Big Bend Blvd. 22
Westrup, Ellsworth A., 8540 E. Big Bend Blvd. 19
Whitener, Miles C., 8923 Midland Blvd. 14
Whitener, Paul R., 8923 Midland Blvd. 14
Wiedershine, Leonard J., 4511 Forest Park Blvd. 8
Williamson, O. E., 6336 Clayton Road 17
Wissmath, Frank S., 35 N. Central Ave. 5
Wittler, Harry A., 2817 Manderly Drive 17
Wolff, Harold D., 4511 Forest Park Blvd. 8
Wood, James A., Clayton Medical Bldg. 5
Wulff, George J. L. Jr., 6 Graybridge Lane 24
Wyatt, Lois C., 134 W. Adams Ave. 22
Yanow, Mitchell, 201 S. Central Ave. 5
Young, John S., 40 N. Kingshighway Blvd. 8
Zimmerman, Herbert B., 8026 Comstock Drive 14
Zwirin, Benjamin H., Northland Medical Bldg. 36

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Mead, Samuel T., Slater
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Rehm, Ralph, Bloomfield
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Sargent, Alden P., Sikeston
Sargent, John P., Sikeston
Sarno, Samuel M., Morehouse
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Eklund, Alfred W., Pleasant Hill
Ellett, William H., Appleton City
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Mullinax, Orr, Nevada
Pascoe, James J., Nevada
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Pickens, E. Allen, Nevada
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Mrs. John M. Williams
616 Ridgeway Drive, Liberty
Auditor
Mrs. Harry Harkness Jr.
Burkarth Road, Warrensburg
Parliamentarian
Mrs. Robert H. Stewart
201 Driftwood Drive, Sedalia

DIRECTORS

First District
Mrs. Franklin C. Werner
422 Sagamore Lane, N. Kansas City 16
Second District
Mrs. Merrill J. Roller
1000 Country Club Drive, Hannibal
Third District
Mrs. W. Joseph Cannon
43 Clermont Lane, St. Louis 24
Fourth District
Mrs. Josiah Walton
6202 Nottingham St., St. Louis 9
Fifth District
Mrs. Henry Durst
1 Ivy Lane, Fulton
Sixth District
Mrs. Hugh Brady
Concordia
Seventh District
Mrs. Solon E. Haynes
5306 Holmes St., Kansas City 10
Eighth District
Mrs. Jerry H. Allen
1324 S. Fairway Ter., Springfield
Ninth District
Mrs. Claude Cooper
Thayer
Tenth District
Mrs. James F. Fairchild
Wild Acres, R. 2, Perryville

CHAIRMAN OF STANDING COMMITTEES

AMA-ERF
Mrs. T. Reed Maxson
Arilen Acres, Warrensburg
Archives
Mrs. Delevan Calkins
1515 Schulte Road, St. Louis 41
Bulletin, National
Mrs. Jack Estes
57 S. Dellwood Ave., St. Louis 35
Bulletin, Quarterly
Mrs. John W. Deyton
659 Fairview Ave., Webster Groves 19
By-Laws
Mrs. Herbert L. Mantz
1209 Romany Road, Kansas City 13
Circulation Manager
Mrs. E. V. Cowdry Jr.
30 Crestwood Drive, Clayton 5
Civil Defense
Mrs. Robert E. Dunshee
145 Sunset Drive, Maryville
Community Service
Mrs. William Eggers
100 Westmount St., Columbia
Courtesy
Mrs. Charles W. Chastain
301 W. Liberty St., Farmington
Doctor's Day
Mrs. J. W. Boger
2803 Skyline Drive, Sedalia
Finance
Mrs. A. J. Crider
Dixon
Health Careers Recruitment
Mrs. W. E. Koppenbrink Jr.
605 Main St., Higginsville
Co-Chairman
Mrs. A. P. Stephan
90 West Circle Drive, Jefferson City
International Health Activities
Mrs. L. O. Muench
1530 Riverview Drive, Washington
Legislation
Mrs. Charles Willman
2115 Lovers Lane, St. Joseph
Medical Student Loan Fund
Mrs. Robert H. Stewart
201 Driftwood Drive, Sedalia
Members-at-Large
Mrs. Edward R. Tellez
207 Lynn Ave., Fulton

Mental Health
Mrs. Ed Wallace
811 S. Jefferson St., Mexico

Organization
Mrs. James K. Ritterbusch
2 Bartley Lane, Fulton

Point System
Mrs. W. Harold Bailey
9157 E. Milton St., Overland 14
Mrs. Oliver E. Tjoflat
252 Woodbourne Drive, St. Louis 5
Mrs. Seymour Kranson
11 Hawthorne Place, Independence

Press and Publicity
Mrs. Doyle C. McCraw
711 N. Main St., Bolivar

Program
Mrs. Ralph Bohnsack
1017 Brookfield Ave., Brookfield

Rural Health
Mrs. Joe A. Zimmerman
906 W. Washington St., Kennett

Safety
Mrs. William Walker
1930 Arcadia Ave., Springfield

Senior Citizens
Mrs. Revis C. Lewis
1001 W. 56th St., Kansas City 13

AUXILIARIES AND COUNTY MEDICAL SOCIETIES LISTED BY DISTRICTS

FIRST DISTRICT: Andrew,* Buchanan, Clay, Clinton,* Grand River (Caldwell, Carroll, Daviess, DeKalb, Grundy, Harrison, Linn, Livingston, Mercer), Nodaway-Holt-Atchison-Gentry-Worth,** Platte.*

SECOND DISTRICT: Chariton-Macon-Monroe-Randolph,* Clark-Lewis-Scotland,* Marion-Ralls-Shelby, North Central (Adair, Knox, Putnam, Schuyler, Sullivan).*

THIRD DISTRICT: St. Louis City.

FOURTH DISTRICT: Franklin-Gasconade-Warren,* Jefferson, Lincoln-St. Charles,* St. Louis County.

FIFTH DISTRICT: Audrain, Boone, Callaway, Camden,** Cole, Cooper, Howard,* Miller-Morgan-Moniteau, Montgomery.*

SIXTH DISTRICT: Benton,* Henry,* Johnson, Lafayette-Ray, Pettis, Saline, West Central (Bates, Cass, Cedar, St. Clair, Vernon).

SEVENTH DISTRICT: Jackson.

EIGHTH DISTRICT: Barton-Dade,* Dallas-Hickory-Polk,* Greene, Jasper, Ozarks (Barry, Christian, Lawrence, McDonald, Newton, Stone, Taney), Webster.*

NINTH DISTRICT: Carter-Shannon,* Mid-Missouri (Crawford, Dent, Laclede, Maries, Phelps, Pulaski),* South Central (Douglas, Howell, Oregon, Ozark, Texas, Wright).

TENTH DISTRICT: Bollinger,** Butler-Ripley-Wayne, Cape Girardeau, Dunklin, Mineral Area (Iron, Madison, Reynolds, St. Francois, Ste. Genevieve, Washington), Pemiscot,* Perry, South East Missouri (Mississippi, New Madrid, Scott, Stoddard).*

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* Denotes no organized Auxiliary.
** Denotes no Medical Society.

Fall Conference—October 23-24, 1963, Joplin
Annual Convention—March 8-11, 1964, St. Louis

SPECIAL COMMITTEES

Nominations
Mrs. J. Martyn Schattyn
9 Huntleigh Downs, St. Louis 31
Mrs. J. W. Boger
2803 Skyline Drive, Sedalia
Mrs. Louis H. Forman
2801 W. 67th St., Shawnee Mission, Kan.
Mrs. David M. Rouse
1415 Hickory Hill Drive, Mexico
Mrs. Clement J. Sullivan
6371 Waterman Ave., St. Louis 30

Reading
Mrs Delevan Calkins
1515 Schulte Road, St. Louis 41
Mrs. John W. Deyton
659 Fairview Ave., Webster Groves 19
Mrs. James A. Reid
102 E. Rea St., Marshall

MSMA ADVISORY COUNCIL

Durward G. Hall, M.D.
2442 S. Fremont St., Springfield
Kenneth C. Hollweg, M.D.
4320 Wornall Road, Kansas City 11
J. Martyn Schattyn, M.D.
539 N. Grand Blvd., St. Louis 3
W. Russell Smith, M.D.
211 Chestnut St., Carthage
Vernon E. Wilson, M.D.
Medical Center, University of Missouri, Columbia

ORGANIZED COUNTIES AND THEIR PRESIDENTS LISTED ALPHABETICALLY

Audrain
Mrs. David M. Rouse
1415 Hickory Hill Drive, Mexico

Boone
Mrs. Roger Bumgarner
R. R. 1, Columbia

Buchanan
Mrs. Maxwell Day
2111 Lovers Lane, St. Joseph

Butler-Ripley-Wayne
Mrs. Cyril A. Post
960 Cynthia St., Poplar Bluff

Callaway
Mrs. Edward R. Tellez
207 Lynn Ave., Fulton

Cape Girardeau
Mrs. George R. Weeks
1728 Bessie St., Cape Girardeau

Clay
Mrs. G. Comer Bates
102 E. 43rd St. N., Kansas City 16

Cole
Mrs. James T. Leslie Jr.
1427 Major Drive, Jefferson City

Cooper
Mrs. William A. Abele
Krohn Drive, Boonville

Dunklin
Mrs. Joe A. Zimmerman
906 W. Washington St., Kennett

Grand River
Mrs. Virgil Dale Vandiver
1836 Polk St., Chillicothe

Greene
Mrs. John W. Williams
2245 Fritts St., Springfield

Jackson
Mrs. Wallace R. Stacey
3407 Shady Bend Drive, Independence

Jasper
Mrs. John D. Maddox
1330 Crest St., Joplin

Jefferson
Mrs. Frank Kozal
Crystal City

Johnson
Mrs. Mario Gonzalez
508 Jefferson St., Warrensburg

Lafayette-Ray
Mrs. Thomas Cook
Richmond

Marion-Ralls-Shelby
Mrs. Paul Purcell
Hull, Ill.

Miller-Morgan-Moniteau
Mrs. Carl T. Buehler Jr.
Eldon

Mineral Area
Mrs. Charles W. Chastain
301 W. Liberty St., Farmington

Ozarks
Mrs. George H. Hobbs
Hoberg Road, Mount Vernon

Perry
Mrs. G. H. DeGenova
1280 Ridgeway Drive, Ste. Genevieve

Pettis
Mrs. Robert H. Stewart
201 Driftwood Drive, Sedalia

St. Louis City
Mrs. Pugh Haynes
8006 Gannon St., St. Louis 30

St. Louis County
Mrs. John W. Deyton
659 Fairview Ave., Webster Groves 19

Saline
Mrs. Bedford F. Knipschild
505 N. Brunswick St., Marshall

South Central
Mrs. Joe A. Wall
320 Cherry Ave., Houston

West Central
Mrs. O. B. Barger
Harrisonville

PAST STATE PRESIDENTS—1924-1963

Mrs. George H. Hoxie* (Jackson)** 1924-25
Mrs. M. P. Overholzer* (West Central) 1925-26
Mrs. Arthur B. McGlothlan (Buchanan)** 1926-27
821 North 24th St., St. Joseph
Mrs. W. M. Bickford* (Saline) 1927-28
Mrs. Willard Bartlett (St. Louis City) 1928-29
53 Westmoreland Place, St. Louis 8
Mrs. M. P. Ravanal* (Boone) 1929-30
Mrs. A. W. McAlester* (Jackson) 1930-31
Mrs. U. J. Busiek (Greene) 1931-32
1635 E. Walnut St., Springfield
Mrs. David S. Long (West Central) 1932-33
M 40, Lake Lotawana, Lee's Summit
Mrs. Hudson Talbot (St. Louis City) 1933-34
405 Winton Lane, Louisville, Ky.
Mrs. W. H. Goodson* (Clay) 1934-35
Mrs. M. Pinson Neal* (Boone) 1935-36
Mrs. Walter C. Kirchner (St. Louis City) 1936-37
183 Third Ave., Chula Vista, Calif.
Mrs. Charles H. Werner* (Buchanan) 1937-38
Mrs. Herbert L. Mantz (Jackson) 1938-39
1209 Romany Road, Kansas City 13
Mrs. Paul E. Cole (Greene) 1939-40
1819 Main St., Quincy, Ill.
Mrs. S. P. Howard (Cole) 1940-41
3505 Greenwood Drive, Waco, Tex.
Mrs. J. J. Drace (Cape Girardeau) 1941-42
Claran Apartments, Cape Girardeau
Mrs. Frank L. Davis* (St. Louis City) 1942-43
Mrs. Robert C. Haynes (Saline) 1943-44
754 Eastwood St., Marshall
Mrs. J. B. McCubbin (Callaway) 1944-45
531 E. 20th St., New York 10, N. Y.
Mrs. Harry M. Gilkey* (Jackson) 1945-46
Mrs. W. E. Koppenbrink Sr. (Lafayette-Ray) 1946-47
Higginsville
Mrs. W. L. Allee* (Miller-Morgan-Moniteau) 1947-48
Mrs. August A. Werner* (St. Louis City) 1948-49
Mrs. John J. O'Connell (St. Louis County) 1949-50
1937 O'Connell Ave., Overland 14
Mrs. Dwight T. Van Del (Jackson) 1950-51
6737 Rockhill Road, Kansas City 31
Mrs. W. Carey Cheek (Greene) 1951-52
1535 East Meadowmere, Springfield
Mrs. Richard A. Sutter (St. Louis County) 1952-53
7215 Greenway Drive, University City 30
Mrs. C. Alex McBurney (Saline) 1953-54
927 Hurt St., Slater
Mrs. Wilfred E. Martin (Lafayette-Ray) 1954-55
403 South Second St., Odessa
Mrs. Frank B. Leitz (Jackson) 1955-56
6832 Locust St., Kansas City 10
Mrs. Charles T. Shepherd (St. Louis County) 1956-57
10 Covington Meadows, St. Louis 32
Mrs. Armand D. Fries (St. Louis City) 1957-58
11 West Geyer Lane, St. Louis 31
Mrs. Henry C. Bauman
(Nodaway-Holt-Atchison-Gentry-Worth) 1958-59
929 W. Third St., Maryville
Mrs. Stanley S. Peterson (Greene) 1959-60
721 E. Stanford St., Springfield
Mrs. Jordan Kelling (Lafayette-Ray) 1960-61
Waverly
Mrs. Frederick E. Wade (Jackson) 1961-62
6421 Wornall Ter., Kansas City 13
Mrs. J. Martyn Schattyn (St. Louis County) 1962-63
9 Huntleigh Downs, St. Louis 31

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* Deceased.
** National President.

List of Woman's Auxiliary by County Society

AUDRAIN COUNTY
(Mexico)

Bradley, Mrs. William, Farber
Davis, Mrs. Leonard L., 725 Lakeview Drive
Dwyer, Mrs. Thomas, 301 Cole St.
Epple, Mrs. Lawrence K., 502 E. Monroe St.
Gantt, Mrs. Ernest S., Teal Lake Road
Garcia, Mrs. C. L., 8 Melody Lane
Jolley, Mrs. J. F., 726 West Monroe St.
Kittelberger, Mrs. Hazel, 1101 West St.
Lankford, Mrs. Harold, 1025 S. Olive St.
O'Brien, Mrs. Harry, 408 Harvard St.
Parrish, Mrs. J. C., Vandalia
Rodes, Mrs. Ned D., 625 Lakeview Ave.
Rouse, Mrs. David M., 1415 Hickory Hill
Shaw, Mrs. Gordon, 1717 Reavis Road
Wallace, Mrs. Ed, 811 S. Jefferson St.

BOONE COUNTY
(Columbia)

Allen, Mrs. Horace, 2109 Valley View Drive
Allen, Mrs. Joseph, 2000 N. Allen Drive
Allen, Mrs. William, 2401 Highland Drive
Anast, Mrs. Constantine, 700 Thilly St.
Asel, Mrs. Norman, 1112 S. Glenwood St.
Baker, Mrs. James, R.F.D. 4
Basket, Mrs. Edgar, 1316 Bass Ave.
Baue, Mrs. Arthur, 612 West Red Bud Lane
Black, Mrs. Samuel, 300 S. Glenwood St.
Bradford, Mrs. O. F., Frederick Apts.
Brooke, Mrs. Clement, 901 Edgewood Ave.
Bruner, Mrs. Claude, 511 S. Glenwood St.
Buessler, Mrs. John, 813 Maupin Road
Bumgarner, Mrs. James, 1815 Rollins St.
Bumgarner, Mrs. Roger, Route 1
Burns, Mrs. Thomas, 1009 S. Providence Road
Chalkley, Mrs. Judson, 614 W. Stewart Road
Cochran, Mrs. Donald, 112 Sappington St.
Cooper, Mrs. Maurice, 1000 Wayne Road
Cope, Mrs. James, 609 Crestland Ave.
Darnell, Mrs. Thomas, 102 Westridge Drive
Denninghoff, Mrs. James, 1108 Jean Rae Drive
Eggers, Mrs. William, 100 Westmount St.
Evans, Mrs. Alden, 807 Maupin Road
Flynn, Mrs. Joseph, 1121 S. Glenwood St.
Fuchs, Mrs. George Jr., 1026 Hickory Hill Drive
Galeota, Mrs. William, 1719 Ridgemont St.
Garrett, Mrs. Glen, 102 E. Brandon Road
Gaunt, Mrs. William, 1125 St. Christopher St.
Hall, Mrs. David, 209 Fredora St.
Hall, Mrs. John, Walter Apts.
Hanlon, Mrs. Russell, 1606 Highridge Circle
Hardwicke, Mrs. Henry, Ashland
Harkness, Mrs. Thomas, 302 Turner St.
Johnson, Mrs. Richard, 109 Circle Ridge Drive
Keown, Mrs. Kenneth, 402 Westmount St.
Kubin, Mrs. Milford, Route 4
LaChance, Mrs. Leopold, Centralia
Ladenson, Mrs. Roland, 704 Westmount St.
Leech, Mrs. Charles, 815 W. Stewart Road
Logue, Mrs. John, 700 Crestland Ave.
Lucas, Mrs. Fred, 2 Ridgeley Road
Marienfeld, Mrs. Carl, 304 Longfellow Lane
Martt, Mrs. Jack, 2205 Danforth Court
Mayer, Mrs. William, 1000 Lakeshore Drive
McElroy, Mrs. Glenn, R.F.D. 3
McKenzie, Mrs. William, 7 Club Court
Miller, Mrs. LeRoy, 32 Bingham Road
Mitchell, Mrs. Frank, 810 Greenwood Court
Modlin, Mrs. John, 706 Thilly St.
Overholser, Mrs. Milton, 110 E. Brandon Road
Payne, Mrs. John, 805 W. Broadway
Pingelton, Mrs. William, 113 Tracy Drive
Ray, Mrs. C. Thorpe, 822 Greenwood Court
Rodgers, Mrs. Elrie, 102 S. Glenwood St.
Sala, Mrs. Jose, 908 Edgewood St.
Scbeuber, Mrs. Charles, 505 W. Blvd. South
Schmidtke, Mrs. Edwin, 105 S. Glenwood St.
See, Mrs. William, 1611 University Ave.
Sheppard, Mrs. Lee Jr., 811 Stanton Ave.
Sights, Mrs. Warren, 309 Tracy Drive
Simpson, Mrs. Lloyd, 503 W. Stewart Road
Smith, Mrs. Grafton, 917 Crestland Ave.
Smith, Mrs. J. Ned Jr., 701 West Blvd., S.
Smith, Mrs. Joe, 222 East Parkway
Spratt, Mrs. John Jr., 204 Leslie Lane
Spurgeon, Mrs. Milo, 404 Edgewood Ave.
Stewart, Mrs. William, Route 5
Stoeckle, Mrs. Harry, 2226 Shepard Blvd.
Thompson, Mrs. Ian, 504 Edgewood Ave.
Waggoner, Mrs. Charles, 712 Hilltop Drive
Walters, Mrs. John, 1027 Hickory Hill Drive
Washington, Mrs. Edward, 204 Stewart Road
Weiss, Mrs. James, 101 S. Glenwood St.
Wilson, Mrs. Vernon, Route 4

BUCHANAN COUNTY
(St. Joseph)

Baker, Mrs. W. C., Savannah
Bascom, Mrs. Charles H., 2505 Edmond St.
Beck, Mrs. Paul M., 3216 Coronado Rd.
Benson, Mrs. Scott C., 1404 N. 26th St.
Berney, Mrs. Francis J., 1225 N. 10th St.
Bristow, Mrs. Robert B., 1610 Ashland Ave.
Butler, Mrs. E. F., 3804 Seneca St.
Byrne, Mrs. J. I., 1915 Lovers Lane
Callman, Mrs. George, State Hospital
Carle, Mrs. H. W. Jr., 2707 N. 26th St.
Carpenter, Mrs. G. T., 2612 Indian Trail
Chiarottino, Mrs. Joseph F., 11 Lindenwood Lane
Christ, Mrs. Martin H., 1015 Garden St.
Craig, Mrs. Owen, 1625 Crescent Drive
Craig, Mrs. Richard O., 2724 Felix St.
Curran, Mrs. Herbert, 2123 Newport Road
Day, Mrs. Maxwell, 2111 Lovers Lane
Denton, Mrs. James, 14 Crestview Village
DuMont, Mrs. Clement, 1905 Francis St.
Durham, Mrs. S. L., Dearborn
Fisher, Mrs. Joseph L., 2903 Ashland St.
Forgrave, Mrs. John R., 1908 Clay St.
Forgrave, Mrs. Leon P., Hundley Drive
Forman, Mrs. George W., 2412 Ashland St.
Grant, Mrs. Claude S., 7 Lindenwood Lane
Gray, Mrs. W. W., 3102 S. 22nd St.
Grimes, Mrs. M. E., 815 N. Noyes St.
Handler, Mrs. Eric, 1070 Crestview Lane
Hartigan, Mrs. F. X., 1801 Ashland St.
Hayes, Mrs. Paul W., 610 N. Noyes St.
Herman, Mrs. Allen I., 1909 N. 32nd St.
Howden, Mrs. Thomas L., 2723 Francis St.
Hunt, Mrs. William J., 2600 Pacific St.
Ide, Mrs. Lucien W., 1416 N. 25th St.
Kieber, Mrs. R. W., 1915 N. 33rd St.
Kline, Mrs. Edmond W., 17 Stonecrest Ave.
Knepper, Mrs. Paul, 2002 Ashland St.
Knoke, Mrs. Fred, 12 Crestview Village
Kulowski, Mrs. Jacob, 2515 Francis St.
Lee, Mrs. Carleton H., 2716 Douglas St.
Lewinsohn, Mrs. Hugo, State Hospital
Luckenbill, Mrs. Paul, Plattsburg
Mabrey, Mrs. John P., Plattsburg
Maginn, Mrs. R. L., 1813 Lovers Lane Heights
Martin, Mrs. John, 9 Lindenwood Lane
McDaniel, Mrs. John R., 1808 N. 29th St.
McDonald, Mrs. Wilbur P., 6 Country Club Road
McGlothlan, Mrs. A. B., 821 N. 24th St.
Meluney, Mrs. S. E., 1810 N. 30th St.
Miller, Mrs. E. A., 2627 Frederick Ave.
Minton, Mrs. W. H., 2221 Eugene Field Ave.
Moen, Mrs. Berwyn H., 2214 Encarper Drive
Morse, Mrs. Marvin W., 2702 Faraon St.
Mothershead, Mrs. John L., 2630 Fairleigh Ter.
Ness, Mrs. Carl K., 8 Lindenwood Lane
O'Connor, Mrs. James, 401 N. 22nd St.
O'Connor, Mrs. Wm. B., 2316 N. 22nd St.
Petersen, Mrs. Harold E., 2902 Frederick St.
Pettit, Mrs. Manson B., 3315 Frederick St.
Pfeffer, Mrs. Robert, 1915 N. 29th St.
Potter, Miss Bertha, 1112 Dewey Ave.
Potter, Mrs. Caryl Jr., 2232 Eugene Field Ave.
Potter, Mrs. Thompson E., 2106 Lovers Lane
Redmond, Mrs. William, 3102 Jule St.
Riddell, Mrs. Richard V., 2610 Indian Trail
Rogers, Mrs. John T., 2502 Ashland St.
Rosenthal, Mrs. Irwin, 2715 Union St.
Rost, Mrs. William B., 2221 Northwest Extension
Roundy, Mrs. Collis I., R.F.D. 2
Saferstein, Mrs. T. H., 2903 Sherman St.
Senne, Mrs. Herbert C., 1308 S. Noyes St.
Shevlin, Mrs. Charles F., 804 N. 25th St.
Smith, Mrs. Clifton, 2821 Ashland Ave.
Stallard, Mrs. Donald J., 1417 N. 25th St.
Tahir, Mrs. Mohammad, 1415 N. 24th St.
Thomas, Mrs. Forrest, 1301 N. 25th St.
Thompson, Mrs. F. Gregg Jr., 631 Hall St.
Thompson, Mrs. F. Gregg III, 2714 Ashland St.
Wadlow, Mrs. Ernest E., 2611 Lovers Lane
Waggoner, Mrs. Sharon E., 5820 S. 3rd St.
Warres, Mrs. Herbert, 2221 Carper Drive
Weed, Mrs. Randall W., 1821 Clay St.
Whitsell, Mrs. Ora E., 2306 Sacramento St.
Willman, Mrs. Charles, 2115 Lovers Lane
Willumsen, Mrs. Henry C., 2209 Eugene Field Ave.

BUTLER COUNTY
(Poplar Bluff)

Barbour, Mrs. Marvin R., 1721 N. Main St.
Biggs, Mrs. Fred J. Jr., 808 N. Main St.
Brookreson, Mrs. A. F.. 321 Oak St.
Caldwell, Mrs. Fred, 1404 Meadowbrook Ave.
Dinelli, Mrs. Frank E., 427 N. Main St.
Engelhardt, Mrs. R. C., 1513 Rosedale Lane
Gernstetter, Mrs. S. L., 709 Kinzer St.
Hansbrough, Eugene T., 1111 Fairmount St.
Johnson, Mrs. Frank, Doniphan
Kneibert, Mrs. Fred L., 1301 Barron Road
McLain, Mrs. B. M., 724 Cynthia Ave.
Miller, Mrs. David V., Highway 67 South
Parker, Mrs. Arthur C. Jr., 708 Selma St.
Post, Mrs. Cyril A., 960 Cynthia Ave.
Ripley, Mrs. C. E., 812 Oak Hill Rd.
Robertson, Mrs. William D., 900 North St.
Ruff, Mrs. T. Eugene, 1411 Rosedale St.
Tapp, Mrs. Ernest M., 1401 Lurlyn Road
Turner, Mrs. William F., 1308 Nooney St.
Willis, Mrs. Norman E., 926 Pine St.

CALLAWAY
(Fulton)

Brown, Mrs. John J., 1304 N. Vine St.
Cremer, Mrs. William J., State Hospital
Durst, Mrs. Henry, 1 Ivy Lane
Freund, Mrs. Harold G., State Hospital
Groce, Mrs. George D., 1 Bartley Lane
Hill, Mrs. James E., Washington St.
Jackson, Mrs. Vernon B., Hams Prairie
Kepler, Mrs. Earl C., Reed Addn.
Peterson, Mrs. Donald, R.F.D. 1
Ritterbush, Mrs. James K., State Hospital
Robertson, Mrs. Robert C., State Hospital
Sydow, Mrs. Henry, 1201 Grand Ave.
Tellez, Mrs. E. M., Lynn St.
Wood, Mrs. George F., 2 Plaza Drive

CAPE GIRARDEAU COUNTY
(Cape Girardeau)

Alyea, Mrs. James, 1873 Marietta St.
Ashley, Mrs. H. V. Sr., 444 Marie St.
Ashley, Mrs. Hugh V. Jr., 1201 Perry St.
Bahn, Mrs. Charles, 2418 Brookwood Drive
Barnes, Mrs. Seth, Bloomfield Road
Blankenship, Mrs. Dale, 907 W. Cape Rock Drive
Campbell, Mrs. Edward, 1100 N. Henderson St.
Chapman, Mrs. Jean A.. 1200 Sailor Circle
Cochran, Mrs. Jo R., 2452 Brookwood St.
Cook, Mrs. Norman, 1611 Lacey St.

Crowe, Mrs. John, 1000 N. Henderson St.
Elrod, Mrs. Dennis, Karau Lane
Estes, Mrs. Albert, Highway 61
Hall, Mrs. Frank, Sylvan Lane
Hector, Mrs. Joe, Highway 70 W, Jackson
Herbert, Mrs. Charles, Sylvan Lane
Holcomb, Mrs. John, 825 N. Fountain St.
Hoxworth, Mrs. Gerald, Oxford Drive
Jaeger, Mrs. Joseph, Shady Lane, Jackson
Johnson, Mrs. Earl W., 1044 N. Henderson St.
Jung, Mrs. Marshall, Illmo-Scott City
Kasten, Mrs. Melvin C., 1209 Sailer Drive
Keim, Mrs. J. Harry, 643 N. West End Blvd.
Kinder, Mrs. James, 348 N. Park St.
Kratz, Mrs. Paul, 1720 Cecilia St.
Lovinggood, Mrs. Thomas, Sylvan Lane
McDonald, Mrs. Eugene, 225 W. Main St., Jackson
McGinty, Mrs. Charles, 2310 Brookwood Ave.
Magaletta, Mrs. George, 957 Rodney Drive
Nunnelly, Mrs. Gordon, 1432 Themis St.
Nussbaum, Mrs. Paul, 209 Sunset Blvd.
Oehler, Mrs. William, 1617 Themis St.
Otto, Mrs. Thomas, 511 Alta Vista Ave.
Parsons, Mrs. Leroy, 1057 Dorothy St.
Rapp, Mrs. Harold, 1011 N. Henderson St.
Rawlins, Mrs. Fred, 1651 Bartling St.
Reynolds, Mrs. Garland, 537 Alta Vista Ave.
Ridings, Mrs. Harold, 96 E. Cape Rock Drive
Ritter, Mrs. Raymond, 1257 Rockwood St.
Seabaugh, Mrs. D. I. L., 922 West Main St.
Seabaugh, Mrs. Loy, 334 N. Ellis St.
Seabaugh, Mrs. William, R.F.D. 2, Box 563
Shoss, Mrs. Milton, West Cape Rock Drive
Tribble, Mrs. Robert, Chaffee
Tygett, Mrs. Glenn, 834 Alta Vista Ave.
Tygett, Mrs. Joseph, 1877 Oak Hills Drive
Weeks, Mrs. George, 1728 Bessie St.
Wilson, Mrs. Charles, Oak Lei Drive
Wolff, Mrs. Paul, 90 E. Cape Rock Drive

CLAY COUNTY
(Kansas City)

Adams, Mrs. Howard, 421 N. Maple, Liberty
Allain, Mrs. James, 401 W. 62 St.
Allen, Mrs. S. Lloyd, Route 6, Box 404 B, Parkville
Balhuizen, Mrs. John, 4407 N. Campbell St.
Bates, Mrs. G. Comer, 102 E. 43 St. N.
Boone, Mrs. Daniel, 3329 Mohawk Lane
Bowles, Mrs. Richard, 1950 Kings Highway, Liberty
Burke, Mrs. E. K., 1 E. Briarcliff
Chastain, Mrs. Maurice W., 3 E. 47th St. N.
Chiles, Mrs. David R., Smithville
Cox, Mrs. William L., 1469 Spruce, Liberty
Dunham, Mrs. R. H., Route 1, Liberty
Dwyer, Mrs. R. D., 1000 S. Woodland Drive
Edwards, Mrs. Theodore F., 2205 E. 39th St. N.
Fakhoury, Mrs. Donald A., 4332 N. Central St.
Fischer, Mrs. Edward H., 4000 Indianola Drive
Fowler, Mrs. I. Charles, 700 E. Barnes St.
Gauer, Mrs. Robert, 4916 Sherwood Drive
Hayes, Mrs. Lawrence L., 1508 E. 51st St. N.
Hendren, Mrs. Glen W., 516 West Franklin, Liberty
Hobbs, Mrs. Earl B., Smithville
Hodge, Mrs. Robert H., 2204 E. 39th St. N.
Jones, Mrs. Charles E., Route 3, Liberty
King, Mrs. Phillip, 1106 Trask, Excelsior Springs
Knox, Mrs. Earl R., 115 E. 43rd St. N.
Kratz, Mrs. Frederick, 3653 Briarcliff Road
Kuenzi, Mrs. Donald E., 924 S. Woodland Drive
Langhus, Mrs. Melvin O., 104 W. Englewood Road
McCormick, Mrs. James E., 309 Northcrest Drive
McCracken, Mrs. S. R., 810 Old Orchard, Excelsior Springs
Mullins, Mrs. B. L., Route 29, Smithville
Musgrave, Mrs. David E., 420 N. Kimball, Excelsior Springs
Parker, Mrs. Robert H., 112 E. 43rd St. N.
Petersen, Mrs. E. G., 6711 N. Wayne St.
Pileggi, Mrs. Felix A., 307 W. 55th Ter. N.
Revare, Mrs. Paul, 3245 Chippewa Drive
Roberts, Mrs. L. Marvin, 3906 E. 50th St. N.
Schertz, Mrs. Truman B., 416 Sagamore Lane
Spelman, Mrs. Arch B., Bridge St., Smithville
Sportsman, Mrs. Weldon L., 6309 N. Grand Ave.
Werner, Mrs. Dean F., 4609 N. Main St.
Werner, Mrs. Franklin C., 422 Sagamore Lane
Williams, Mrs. John M., 616 Ridgeway Dr., Liberty
Willoughby, Mrs. James W., 420 North Ridge, Liberty
Withrow, Mrs. John B., 3925 N. Main St.

COLE COUNTY
(Jefferson City)

Adams, Mrs. Charles F., 26 Hobbs Lane
Belinson, Mrs. Louis, 2008 Redwood Drive
Bowe, Mrs. Edwin, 401 Ridgeway Ave.
Cox, Mrs. William A., 206 Swift's Highway
Dorris, Mrs. Richard P., 1104 Vineyard Square
Doyle, Mrs. Matthew, 2311 Livingston Drive
Enloe, Mrs. L. David, 1200 Moreland St.
Exon, Mrs. C. Stuart, Boonville Road
Fullgrabe, Mrs. Emil A., 1602 Taylor Drive
Garner, Mrs. Lynn M., 403 Meier Drive
Gordon, Mrs. James, 600 Boonville Road
Gove, Mrs. Herman S., 712 Broadway
Guhleman, Mrs. Henry V. Jr., 1710 Greenberry Road
Gurnee, Mrs. Landon H., 121 Westmore Drive
Handler, Mrs. Fred P., 95 E. Circle Drive
Kanagowa, Mrs. Harold H., 734 Houchin St.
Kelly, Mrs. Marshall W., 1610 Greenberry Road
Klebba, Mrs. Larry B., Highway 50 West
Leslie, Mrs. James P., 933 Fairmount St.
Leslie, Mrs. James T. Jr., 1427 Major Drive
Loyd, Mrs. Earl L., 114 Binder Drive
Matthews, Mrs. John I., 1310 Moreau Drive
McHaney, Mrs. John W., Highway 50 West
McKnelly, Mrs. William V., 1213 Elmerine St.
Meier, Mrs. Francis X., 1913 Hayselton Drive
Meinershagen, Mrs. Charles W., 138 Forest Hill
Ossman, Mrs. Julian A., 2505 W. Main St.
Russell, Mrs. Joseph P., 1517 Greenberry Road
Sanders, Mrs. Jack S., 2008 Livingston Drive
Sennott, Mrs. John S., 102 Douglas Drive
Shull, Mrs. G. Donald, 1925 Hayselton Drive
Stauffer, Mrs. Harry B., 1906 Chicago Road
Stephan, Mrs. August P., 90 W. Circle Drive
Stewart, Mrs. James, 201 Clay St.
Stricker, Mrs. Harold C., 1205 Moreau Drive
Sugarbaker, Mrs. Everett D., 2113 W. Main St.
Summers, Mrs. Joseph S. Jr., 2313 W. Main St.
Tanner, Mrs. Robert H., 1606 Greenberry Road
Taylor, Mrs. Leon A., 1104 W. Main St.
Tietjen, Mrs. Fred C., Kraus Addition, Route 3
Watts, Mrs. Byron E., 2112 Forest Drive
Winegar, Mrs. Alvon C., 222 Swift's Highway

COOPER COUNTY
(Boonville)

Abele, Mrs. William A., 711 E. Morgan St.
Avery, Mrs. Willard B., 20 Crestview St.
Beckett, Mrs. Theodore C., 725 Fourth St.
Diekroeger, Mrs. Manuel L., Maplewood Farm, RFD 1
Friedrichs, Mrs. Vernon D., Pilot Grove
Hata, Mrs. Daikichi, 7 Morningside Drive
Humphreys, Mrs. Edward T., 1123 Third St.
Stuart, Mrs. Byron M., 910 Shamrock Ter.
Winn, Mrs. George W., Poplar St.
Ziegler, Mrs. William H., Weyland Drive

DUNKLIN COUNTY

Baldwin, Mrs. Paul, 200 W. Washington St., Kennett
Benson, Mrs. Leo J. Jr., 204 Wiggs St., Kennett
Cash, Mrs. Charles R., 800 College St., Kennett
Cofer, Mrs. J. C., 404 N. Walnut St., Kennett
Croom, Mrs. D. W., 411 W. Park St., Malden
Dunmire, Mrs. George Q., 504 S. Baker Drive, Kennett
English, Mrs. Wallace D., Box 67, Cardwell
Miltenberger, Mrs. Paul C., 705 W. Washington St., Kennett
Morehead, Mrs. William E. 301 N. Everett St., Kennett
Palenske, Mrs. R. L., Box 57, Hornersville
Peck, Mrs. Chester R., 234 S. Main St., Kennett
Presnell, Mrs. U. A. V., 915 S. Jackson St., Kennett
Spence, Mrs. E. L., 301 College St., Kennett
Tarver, Mrs. Quinton, 1004 W. Washington St., Kennett
Wilson, Mrs. Loys C., 915 S. Jackson St., Kennett
Zimmerman, Mrs. Joe A., 906 W. Washington St., Kennett

GRAND RIVER COUNTIES
(Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb Counties)

Allen, Mrs. Erroll W., 110 N. Rea St., Carrollton
Bales, Mrs. Eugene, 502 W. 3rd Ter., Carrollton
Bohnsack, Mrs. Ralph, 1017 Brookfield Ave., Brookfield
Clark, Mrs. Chester L., 13 Town & Country, Trenton
Conrad, Mrs. Joseph, 1202 Jackson St., Chillicothe
Cullers, Mrs. Charles H., 205 W. 12 St., Trenton
Daley, Mrs. Frank, 508 E. Samuel St., Hamilton
Dixon, Mrs. John R., 1005 Brookfield Ave., Brookfield
Dowell, Mrs. Donald M., 1830 Calhoun St., Chillicothe
Duffy, Mrs. Oliver F., R.F.D. 1, Trenton
Ellsworth, Mrs. Willard, Cainsville
Fair, Mrs. William L., 1705 Calhoun St., Chillicothe
Fuson, Mrs. William, 520 Pleasant View, Trenton
Gale, Mrs. Joseph, 1710 Polk St., Chillicothe
Gary, Mrs. George, 112 W. Hauser St., Marceline
Horner, Mrs. Glennon, W. Walker St., Marceline
Howell, Mrs. Billy D., 416 Shelby St., Brookfield
Magil, Mrs. Joseph S., 523 Baker Ave., Milan
Mairs, Mrs. Catherine, 412 E. 7 St., Trenton
Mandler, Mrs. George, 1616 Clay St., Chillicothe
Platz, Mrs. John H., 804 N. Main St., Carrollton
Smith, Mrs. Robert W., 509 E. Houser St., Marceline
Sweiger, Mrs. James H., Mayville
Vandiver, Mrs. Virgil D., 1836 Polk St., Chillicothe
Vinyard, Mrs. Jack L., R. R. 2, Carrollton

GREENE COUNTY
(Springfield)

Allen, Mrs. Jerry H., 1324 S. Fairway Ter.
Allison, Mrs. James B., 1860 E. Glenwood St.
Anthony, Mrs. Dallas D., 1322 S. Pickwick St.
Ash, Mrs. Charles J., 743 Riverside Ave.
Ashley, Mrs. Thomas E., 2740 Pythian St.
Atkinson, Mrs. Thomas E. Jr., RFD 9, Box 81-A
Auner, Mrs. Cecil, 649 McCann St.
Baldwin, Mrs. Richard M., 2103 Kings St.
Bonebrake, Mrs. McDonald D., 1443 S. Delaware St.

Bareis, Mrs. Robert, Marshfield
Brown, Mrs. Alex L., 2424 Sheridan Blvd.
Brown, Mrs. Lyman D., 1212 N. Sherman St.
Burkey, Mrs. Jordan W., 2405 Sheridan Blvd.
Busiek, Mrs. Erwin F., 1220 E. Meadowmere Ave.
Busiek, Mrs. Urban, 1635 E. Walnut St.
Callaway, Mrs. Guy D. Jr., 901 E. Portland St.
Callaway, Mrs. Guy D. Sr., 1155 S. Delaware St.
Cheek, Mrs. W. Carey, 1534 E. Meadowmere St.
Christy, Mrs. Raymond A., 2868 Eastmoor St.
Clarke, Mrs. Michael J., 2416 Brentwood Blvd.
Clary, Mrs. William F., 2259 Mirabeau St.
Clayton, Mrs. Edgar L., 2446 Brentwood Blvd.
Cochran, Mrs. Thomas E. Jr., 2423 Brentwood Blvd.
Coller, Mrs. Frederick C., 2433 Marlan St.
Conrad, Mrs. Raymond C., 1338 S. Delaware St.
Crawford, Mrs. Oral B., Route 1, Box 443
Cunningham, Mrs. Darral D., 1425 S. Delaware St.
Delzell, Mrs. William A., Route 1, Willard
Dietz, Mrs. Mortimer W., 2540 Edgewater St.
Dillard, Mrs. Erin M., 2530 Marlan St.
Dolan, Mrs. Daniel L., 2300 Maryland St.
Duncan, Mrs. Robert D., 1234 E. Loren St.
Elkins, Mrs. Ronald F., 2830 E. Glenwood St.
Ellis, Mrs. Francis J., 2235 E. Glenwood St.
Evans, Mrs. Ezra L. Jr., 1260 E. Catalpa St.
Farthing, Mrs. Fred R., 1234 E. Walnut St.
Farthing, Mrs. Gene W., 1235 E. Walnut St.
Ferguson, Mrs. John P., 1219 S. Clay St.
Ferguson, Mrs. John P. Sr., 1045 E. Linwood Drive
Ferrell, Mrs. Thomas E. Jr., 1525 E. Meadowmere St.
Fessenden, Mrs. Ersel M., 634 Kingsbury St.
Fitch, Mrs. Max, 2523 S. Marlan St.
Francis, Mrs. William C., 2134 Luster St.
German, Mrs. Walter A. Jr., 2659 Luster St.
Giddings, Mrs. Frank C., 1211 S. Pickwick St.
Glynn, Mrs. Robert R., 1101 Benton St.
Gorelick, Mrs. David P., 1041 Linwood Ter.
Gose, Mrs. Don F., 1339 S. Delaware St.
Hahn, Mrs. Andrew L., 2639 S. Luster St.
Hall, Mrs. Durward G., Route 12, Box 980
Hanan, Mrs. Ernest B., 724 E. Kingsbury Ave.
Hanss, Mrs. Armand W., Route 9
Harris, Mrs. Jesse D., U. S. Medical Center
Harvey, Mrs. Harold D., 1853 S. Broadway
H'Doubler, Mrs. Francis T., Route 7
H'Doubler, Mrs. Francis T. Jr., 2336 E. Glenwood St.
Hollis, Mrs. Richard, 2178 Catalina St.
Holmes, Mrs. Daniel E., 2115 Cedarbrook St.
Holmes, Mrs. David R., 2321 S. Cedarbrook St.
Horton, Mrs. James D., 1235 E. Delmar St.
Ivy, Mrs. H. B., 215 E. Sunshine St.
Jameson, Mrs. James E., 2753 Luster St.
Johnson, Mrs. Warford B., 2244 Edgewood St.
Johnson, Mrs. William F., 1858 S. Jefferson St.
Johnston, Mrs. Joseph L., 2855 Southern Hills
Jorel, Mrs. Louis E., 2125 S. Dollison St.
Key, Mrs. James S., 2278 Englewood Road
Klingner, Mrs. George M., 2003 E. Sunshine St.
Knabb, Mrs. Henry F. Jr., Route 8, Box 1078
Knabb, Mrs. Kenneth E., 1229 E. Catalpa St.
Kolze, Mrs. Vernon W., 1854 Valley Road
Langston, Mrs. Walter R., 1453 S. Fairway Ter.
Lemmon, Mrs. G. Bruce Jr., 1462 Virginia St.
Leslie, Mrs. James F., 1418 Benton St.
Litton, Mrs. Lyle D., 3044 Shalimer St.
Lockhart, Mrs. Charles E., 1600 E. Catalpa St.
Lorenc, Mrs. Ernest, 2554 S. Luster St.
Lowe, Mrs. Horace Arch Jr., 1700 E. Walnut St.
Lurie, Mrs. Harold H., 2433 Langston St.
Maple, Mrs. Francis M., 2330 Mirabeau St.
Maples, Mrs. Floyd H., 1923 Ventura St.
McAlhaney, Mrs. Howard J., 1643 E. Catalpa St.
McCraw, Mrs. Doyle C., 711 N. Main, Bolivar
Menchetti, Mrs. Don E., 207 W. Cherokee St.
Moore, Mrs. DeArmond, U. S. Medical Center
Moseley, Mrs. F. Thomas, 2102 S. Dollison St.
Napper, Mrs. Marvin L., Ash Grove
Neu, Mrs. Leo T. Jr., 3008 Carlisle Circle
Overend, Mrs. Don S., 2115 Catalina St.
Palcheff, Mrs. Chris L., 1939 E. Wayland St.
Park, Mrs. William I. Jr., 815 E. Portland St.
Penninger, Mrs. William H., 2246 E. Claiborne St.
Peterson, Mrs. Stanley S., 721 E. Stanford St.
Plumlee, Mrs. William C., 919 E. Walnut St.
Polk, Mrs. John W., 1463 E. Meadowmere St.
Powell, Mrs. Edwin M., 1226 S. Weller St.
Prater, Mrs. Bill G., 3000 Carlisle Circle
Pruett, Mrs. Paul L., 1036 E. Sunshine St.
Rigney, Mrs. Levi M., 2224 Edgewater St.
Roper, Mrs. Stanley D., Ozark
Scanlon, Mrs. Robert C., 2429 S. Kings St.
Schroff, Mrs. Carle H., 2158 S. Lone Pine St.
Schwartz, Mrs. Eugene J., 1315 E. Loren St.
Schweitzer, Mrs. Fred C. Jr., 2550 S. Luster St.
Sewell, Mrs. Walter S., 2707 S. Marlan St.
Siceluff, Mrs. Joseph C., Route 3
Simpson, Mrs. Albert P., 2202 Barataria St.
Simpson, Mrs. Emerson L., 1023 E. Portland St.
Smith, Mrs. Harvey S., 963 S. Delaware St.
Snead, Mrs. William H. Jr., 2532 Sheridan St.
Stewart, Mrs. Robert B., 2360 E. Grand St.
Stewart, Mrs. R. Wendell, 2028 Windsor Drive
Sturtevant, Mrs. H. N., 956 S. Fremont St.
Tarrasch, Mrs. Ernest L., 2114 Langston St.
Thomasson, Mrs. David D., 2311 E. Glenwood St.
Tillman, Mrs. Walter W. Jr., 1220 E. Loren St.
Tombridge, Mrs. Thomas L., 2113 Meadowview St.
Turner, Mrs. Glen O., 1462 S. Dollison St.
Trotter, Mrs. W. Yates, 910 E. University St.
Upshaw, Mrs. Paul O., 2222 Englewood St.
Vail, Mrs. A. Denton, 1307 E. Catalpa St.
Waddell, Mrs. Kenneth E., 1126 S. Kentwood St.
Wakeman, Mrs. Jasper N., 1402 E. Meadowmere St.
Walker, Mrs. William M., 1930 Arcadia Ave.
Webb, Mrs. Leslie R., 1243 E. Loren St.
White, Mrs. R. Ned, 307 Cordova Court
Williams, Mrs. John W., 2245 Fritts St.
Wise, Mrs. Gordon F., 2850 Southern Hills Blvd.
Wittmer, Mrs. S. C., 2314 E. Washita St.
Wood, Mrs. William W., 1854 E. Berkeley St.
Wooldridge, Mrs. Wilfred E., 1126 E. Stanford St.
Yancey, Mrs. Daniel L., 1133 S. Weller St.

JACKSON COUNTY
(Kansas City)

Aaron, Mrs. George, 612 W. 69th St. 13
Adelman, Mrs. Arthur, 333 W. Meyer Blvd.
Agee, Mrs. Loren G., 1101 E. 110th St. 31
Aks, Mrs. Daniel, 6009 W. 99th St.
Allebach, Mrs. Hobart K. B., 3810 W. 65th Ter., Shawnee Mission, Kan.
Allen, Mrs. Charles H., 616 West Maple, Independence
Allen, Mrs. William B., 6416 Ensley Lane, Shawnee Mission, Kan.
Altomare, Mrs. Edward P., 1030 W. 65th St. 13
Altringer, Mrs. Arthur N., 5630 Mission Drive, Shawnee Mission, Kan.
Anderson, Mrs. Raymond B., 6024 State Line 13
Anderson, Mrs. Richard W., 1001 Romany Road 13
Andrus, Mrs. Bailey C., 6508 Overbrook Road, Shawnee Mission, Kan.
Arms, Mrs. Arnold V., 6421 High Drive, Shawnee Mission, Kan.
Aschman, Mrs. T. H., 8740 Brooklyn St. 30
Asher, Mrs. A. Graham, 5410 State Line, Shawnee Mission, Kan.
Atcheson, Mrs. Bellefield, 6524 Overhill Road, Shawnee Mission, Kan.
Atwell, Mrs. Floyd C., 630 W. 60th Ter. 13
Ayres, Mrs. Samuel, 305 W. 51st Ter. 12
Bachman, Mrs. Paul L., 1206 W. Truman Road, Independence
Baker, Mrs. Philip J., 11440 E. 47th St. 33
Ballard, Mrs. V. Bryce, 4408 W. 74th Ter., Prairie Village, Kan.
Bare, Mrs. Chester I., 10501 E. 78th Ter., Raytown
Barelli, Mrs. Pat A., 5609 Mission Drive, Shawnee Mission, Kan.
Barnard, Mrs. John L., 444 W. 67th St. 13
Barnes, Mrs. Robert H., 6714 Kenwood Ave. 31
Barnett, Mrs. Gordon P., 6568 High Drive, Shawnee Mission, Kan.
Barry, Mrs. John W., 217 W. 67th Ter. 13
Barry, Mrs. William B., 4600 Nichols Parkway 12
Bay, Mrs. Merrill R., Woods Chapel Road, Blue Springs
Becker, Mrs. R. R., 5622 Holmes St. 10
Becker, Mrs. Rolfe A., 5808 W. 94th Ter.
Bennett, Mrs. J. Dale, 3216 W. 69th St., Shawnee Mission, Kan.
Benoit, Mrs. Hector W. Jr., 2501 W. 64th St., Shawnee Mission, Kan.
Berenson, Mrs. Sheldon E., 832 W. 63rd St. 13
Bernreiter, Mrs. Michael, 1246 W. 63rd St. 13
Berry, Mrs. Maxwell G., 5020 Summit St. 12
Berry, Mrs. Guy N., 1025 62nd St. 13
Bikales, Mrs. Victor W., 5810 High Drive, Prairie Village, Kan.
Bills, Mrs. Marvin L., 3309 W. 68th St., Shawnee Mission, Kan.
Black, Mrs. Don A., 2700 W. 67th St., Prairie Village, Kan.
Black, Mrs. Eugene, 3201 W. 67th St., Shawnee Mission, Kan.
Blim, Mrs. Richard D., 3204 W. 71st St., Prairie Village, Kan.
Bohan, Mrs. Peter T., 4545 Wornall Road 11
Bolin, Mrs. N. Venay, 5720 Howe Drive, Shawnee Mission, Kan.
Bordy, Mrs. Marvin D., 8710 Belleview St. 14
Borenstine, Mrs. Joseph, 7307 Holmes St. 31
Botwin, Mrs. Arnold E., 6010 Cherokee Drive, Mission, Kan.
Boughnou, Mrs. Harvey, 660 West 61st Ter. 13
Bourke, Mrs. Timothy S., 4535 Rockhill Ter. 10
Bowser, Mrs. John F., 3701 Madison St. 11
Brams, Mrs. Jack B., 5050 Oak St. 12
Braverman, Mrs. Abe E., 611 E. 109th Ter. 31
Bridgens, Mrs. James G., 1025 Huntington Road 13
Brown, Mrs. Adrian J., 12 E. 63rd St. 13
Brown, Mrs. Irwin S., 3301 W. 68th St., Shawnee Mission, Kan.
Brown, Mrs. William R., 8124 Lee Blvd., Shawnee Mission, Kan.
Bruner, Mrs. Robert E., 912 Valentine Road 11
Brust, Mrs. Carl H., 6114 Howe Drive, Mission, Kan.
Buckner, Mrs. Robert C., 3507 W. 87th St., Shawnee Mission, Kan.
Budke, Mrs. Harold A., 1219 W. 66th Ter. 13
Buhler, Mrs. Victor B., 5212 Bellview St. 12
Bunting, Mrs. Williston P., 1231 W. 62nd St. 13
Butcher, Mrs. Robert W., 1101 W. 86th Ter. 14
Byers, Mrs. Philip, 5832 High Drive, Shawnee Mission, Kan.

Caffrey, Mrs. Raymond J., 1314 W. Red Bridge Road 10
Caldwell, Mrs. John K., 436 E. 65th Ter. 31
Calovich, Mrs. Emery, 3500 W. 49th St., Shawnee Mission, Kan.
Campbell, Mrs. Frederick B., 1032 W. 55th St. 13
Campbell, Mrs. John G., 827 W. 60th Ter. 13
Carlson, Mrs. Hjalmar E., 2025 W. 48th Ter. 12
Carmichael, Mrs. Francis A., 5841 High Drive, Shawnee Mission, Kan.
Casady, Mrs. Gilbert N., 9820 Aberdeen Drive, Shawnee Mission, Kan.
Casford, Mrs. Ralph, 1236 W. 72nd St. 14
Chambers, Mrs. James Q. Jr., 5500 Belinder Road, Shawnee Mission, Kan.
Chambers, Mrs. James Q. Sr., 3624 Holmes St. 9
Chapman, Mrs. Arthur H., 1020 W. 70th Ter. 13
Cheeseman, Mrs. William B., 5302 W. 79th Ter., Prairie Village, Kan.
Clark, Mrs. Irving H., Route 1, Grandview
Cochrane, Mrs. Joseph J., 9615 Grandview Road 37
Cockerell, Mrs. Sanford F., 3501 South Crysler St., Independence
Coffey, Mrs. Ralph R., 814 Rockwell Lane 12
Cohen, Mrs. Harry K., 417 W. 70th St. 13
Cohen, Mrs. Hilliard, 1291 W. 72nd Ter. 14
Cooper, Mrs. Charles S., 1035 W. Meyer Circle
Counsell, Mrs. Chester M., 708 W. 17th St. 8
Cox, Mrs. Kenneth E., 5640 Pembroke Lane, Prairie Village, Kan.
Cramer, Mrs. Quentin, 3615 W. 83rd Ter., Prairie Village, Kan.
Cross, Mrs. Walter M., 4511 Holmes St. 10
Culbertson, Mrs. William F., 1253 Huntington Road 13
Curran, Mrs. Desmond, 6626 Wenonga Ter., Prairie Village, Kan.
Cutcliff, Mrs. Daniel J., 415 E. 66th St. 31
Dann, Mrs. David S., 1215 W. 67th St. 13
Davis, Mrs. Herbert V., 4601 Holmes St. 10
Davis, Mrs. Jack M., 4417 Blue Ridge Blvd. 33
Davis, Mrs. Robert C., 659 W. 61st Ter. 13
Decker, Mrs. Albert I., 2403 W. 70th Ter., Shawnee Mission, Kan.
DeMott, Mrs. John D., 4402 Homestead Drive, Prairie Village, Kan.
DeMotte, Mrs. John A., 1247 W. 56th St. 13
Dennie, Mrs. Charles C., 2600 Verona Road, Shawnee Mission, Kan.
DeWeese, Mrs. Everett R., 3316 W. 69th St., Shawnee Mission, Kan.
Dlabal, Mrs. L. J., 3729 Blue Ridge Blvd., Independence
Dodge, Mrs. Mark, 5820 State Line, Shawnee Mission, Kan.
Dolezal, Mrs. Joseph B., 7928 Outlook Ave., Prairie Village, Kan.
Dorsch, Mrs. E. H., 3516 Claremont St., Independence
Downey, Mrs. James W., 2400 W. 51st Ter., Shawnee Mission, Kan.
Drake, Mrs. Roy F., 6200 W. 62nd Ter., Mission, Kan.
Draney, Mrs. Thomas L., 6426 Holmes St. 31
Drisko, Mrs. Robert M., 2100 Stratford Road, Shawnee Mission, Kan.
Duncan, Mrs. Ralph E., 1267 W. 61st St. 13
Duncan, Mrs. William H. Jr., 808 W. 69th St. 13
Duncan, Mrs. William H. Sr., 501 Porte Cimi Pas 10
Durnell, Mrs. Monaford D., 1011 W. First St., Lee's Summit
Edmonds, Mrs. D. D., 9009 Mission Road, Leawood, Kan.
Eiseman, Mrs. Gustave, 7908 Campbell St. 13
Elias, Mrs. David J., 10311 Sheley Road, Independence
Elliott, Mrs. B. Landis, 4712 Roanoke Parkway 12
Elliott, Mrs. R. Glenn, 6136 Reinhardt Drive, Shawnee Mission, Kan.
Eshelman, Mrs. Albert D., 12116 E. 46th St. 33
Etzenhouser, Mrs. Merrill, 1215 W. 35th Ter., Independence
Etzenhouser, Mrs. Russell D., 1317 W. College St., Independence
Eubank, Mrs. M. Dillard, 6020 Elm St., Raytown
Eubank, Mrs. Will R., 6113 Lane, Raytown 33
Eubank, Mrs. William Y., 6411 Morningside Drive 13
Farley, Mrs. Claude C., 5112 W. 60th Ter., Prairie Village, Kan.
Farney, Mrs. Jacob P., 2721 W. 69th St., Shawnee Mission, Kan.
Farnsworth, Mrs. Jesse J., 5608 Fairway Ave., Shawnee Mission, Kan.
Feierbend, Mrs. Frank L., 7345 Wyoming St. 14
Feist, Mrs. George V., 1103 W. 86th Ter. 74
Ferguson, Mrs. Eugene H., 333 W. Meyer Blvd. 13
Ferguson, Mrs. James T., 718 E. Armour Blvd. 9
Ferris, Mrs. Carl R., 629 W. 70th Ter. 13
Findley, Mrs. J. W., 14 W. 57th Ter. 13
Fitzgerald, Mrs. Robert H., 2700 W. 69th St., Shawnee Mission, Kan.
Flanders, Mrs. Horace F., 3820 W. 65th Ter., Prairie Village, Kan.
Flanders, Mrs. Virgil, 6646 Nall Drive, Mission, Kan.
Folck, Mrs. William P., 5804 Linden Road, N.W., Parkville
Forman, Mrs. Louis H., 2801 W. 67th St., Shawnee Mission, Kan.
Forsythe, Mrs. Robert W., 6457 Verona Road, Shawnee Mission, Kan.
Foster, Mrs. Hal, 5050 Oak St. 12
Fouts, Mrs. Dallas Sr., 13101 E. 43rd St., Independence
Fowler, Mrs. Fred D., 4911 Paynee Drive, Shawnee Mission, Kan.
Fowler, Mrs. James W., 200 W. 53rd Ter. 12
Fredeen, Mrs. Robert C., 5437 Canterbury Road, Shawnee Mission, Kan.
Frick, Mrs. J. Paul, 116 Huntington Road 13
Friedman, Mrs. Morris L., 2516 West 69th St., Shawnee Mission, Kan.
Fritzlen, Mrs. Thomas J., 6848 Locust St. 31
Fuhrman, Mrs. Donald L., 3417 W. 68th St., Shawnee Mission, Kan.
Fulton, Mrs. Albert E., 9501 Madison Ave. 15
Fury, Mrs. Tex E., 642 Huntington Road 13
Gainey, Mrs. Harold L., 6438 Indian Lane, Shawnee Mission, Kan.
Ganley, Mrs. William C., 8400 Overhill Drive 38
Gard, Mrs. Raymond F., 11530 Winner Road, Independence
Garrison, Mrs. Roy F., 404 W. 67th Ter. 13
Geha, Mrs. Braham J., 9814 Lee Blvd., Leawood, Kan.
Gempel, Mrs. Paul A., 5322 Falmouth Road, Shawnee Mission, Kan.
George, Mrs. Charles E., 6419 Wornall Ter. 30
Gestring, Mrs. Hugh A., 3915 W. 90th Ter., Shawnee Mission, Kan.
Gibson, Mrs. David M., 5318 Sunset Drive 12
Gilkey, Mrs. Harry M., 4941 Westwood Road 12
Gillmor, Mrs. C. Stewart, 420 E. Armour Blvd. 9
Ginsberg, Mrs. Norman A., 1220 W. 67th St. 13
Gist, Mrs. W. W., 1208 W. 59th St. 13
Goldman, Mrs. Stanley, 5734 Windsor Drive, Mission, Kan.
Goldsich, Mrs. Edward, 5515 W. 81st St., Prairie Village, Kan.
Goodman, Mrs. Leroy, 2119 W. 70th Ter., Shawnee Mission, Kan.
Goodson, Mrs. W. H. Jr., 46 E. 54th St. 12
Goolsbee, Mrs. Robert, 6438 Sagamore St., Shawnee Mission, Kan.
Gottsch, Mrs. Joseph C., 2701 W. 48th Ter., Shawnee Mission, Kan.
Grabske, Mrs. Charles F., 1314 W. Truman Road, Independence
Graham, Mrs. Wallace H., 5157 Ward Parkway 12
Green, Mrs. John R., 3424 Norton St., Independence
Greene, Mrs. W. Wallace, 2008 W. 68th St., Shawnee Mission, Kan.
Griffith, Mrs. George W., 4010 Harrison St. 10
Griffith, Mrs. John A. Jr., 6500 Granada Drive, Shawnee Mission, Kan.
Growdon, Mrs. John A., 1207 Stratford Road
Gundle, Mrs. Sigmund, 5926 Windson Drive, Mission, Kan.
Haight, Mrs. John M., 5609 Blue Ridge Blvd. 33
Hall, Mrs. Thomas B., 4550 Warwick Blvd. 11
Halperin, Mrs. Phillip H., 1011 W. 56th St. 13
Hamel, Mrs. Herbert A., 6441 High Drive, Shawnee Mission, Kan.
Hamill, Mrs. Robert W., 6945 Nieman Road, Shawnee Mission, Kan.
Hardy, Mrs. John W., 5501 Neosho Lane, Mission, Kan.
Harless, Mrs. Morris S., 6844 Cherry St. 31
Hartwig, Mrs. Fred H., 5204 Pawnee Drive, Shawnee Mission, Kan.
Hausheer, Mrs. Herman, 1804 S. Dodgian St., Independence
Haynes, Mrs. Solon E., 5306 Holmes St. 10
Hazen, Mrs. Robert M., 9919 Ensley Lane, Leawood, Kan.
Heller, Mrs. B. Marcus, 627 W. 68th Ter. 13
Helman, Mrs. Richard G., 6540 Wenonga Road, Shawnee Mission, Kan.
Henry, Mrs. S. David, Route 2, Quivira Lake, Kansas City 6, Kan.
Herrman, Mrs. George V., 828 Greenway Ter. 13
Hess, Mrs. Paul D., 8423 High Drive, Leawood, Kan.
Hibbard, Mrs. Blaine Z., 5211 Sunset Drive 12
Hickerson, Mrs. William H., 4207 S. Crysler St., Independence
Hill, Mrs. J. H., 8115 Meadow Lane, Leawood, Kan.
Hink, Mrs. Fred W., 524 Hardy St., Independence
Hoadley, Mrs. William D., 3009 W. 48th Ter., Shawnee Mission, Kan.
Hodgson, Mrs. Frank H., 1049 W. 55th St. 13
Hoeper, Mrs. Samuel D., 13009 Twelfth St., Grandview
Hoffman, Mrs. J. S., 5820 Cherokee Drive, Shawnee Mission, Kan.
Hoffman, Mrs. L. Lee, 6533 Rainbow Ave., Prairie Village, Kan.
Holbrook, Mrs. Ralph W., 700 W. 48th St. 12
Holder, Mrs. Thomas M., 5628 Tahoe Lane, Shawnee Mission, Kan.
Hollweg, Mrs. Kenneth C., 808 W. Meyer Blvd. 13
Holman, Mrs. Melvin V., 4815 W. 103rd St., Shawnee Mission, Kan.
Holton, Mrs. Edward B., 2817 Westport Road, Independence
Hook, Mrs. Waller G., 9238 State Line, Leawood, Kan.
Howard, Mrs. Joseph W., 6026 McGee St. 13
Hungate, Mrs. Carroll P., 6845 Oak St. 13
Hunt, Mrs. Claude J., 615 W. 56th St. 13
Hunter, Mrs. Martin P., 6532 Belinder Road, Shawnee Mission, Kan.
Hunzicker, Mrs. Warren J., 1248 Stratford Road 13
Ingham, Mrs. Walton C., 9723 Overbrook Road, Leawood, Kan.
Irwig, Mrs. Fred, 5109 W. 87th St., Shawnee Mission, Kan.
Jackson, Mrs. Carl A., 2305 W. 79th St., Shawnee Mission, Kan.
Jackson, Mrs. Jabez N., 4600 Nichols Parkway 12
Jacob, Mrs. Walter P., 1002 Romany Road 13
Jacobs, Mrs. Morton, 6416 Verona Road, Prairie Village, Kan.
Jacobs, Mrs. Walter H., 6656 Millhaven Drive, Shawnee Mission, Kan.
James, Mrs. Otis E. Jr., 2810 W. 68th St., Shawnee Mission, Kan.
Jansen, Mrs. Robert, 440 E. 66th St. 31
Jarvis, Mrs. James A., 600 W. 57th St. 13
Jeffries, Mrs. Robert C., 8505 Belinder Road, Shawnee Mission, Kan.
Jenab, Mrs. Morteza, 5400 W. 71st St., Prairie Village, Kan.
Johns, Mrs. Leo, 10217 Tracy St. 31
Jonas, Mrs. Harry S., 11711 Markham Road, Independence
Jones, Mrs. T. Reid, 5927 Lockton Lane, Shawnee Mission, Kan.
Johnson, Mrs. Joseph E., 9915 Flora St. 31

Johnstone, Mrs. Paul N., 117 W. 69th Ter. 13
Justus, Mrs. John R., 5221 Howe Drive, Shawnee Mission, Kan.
Kantor, Mrs. Julius M., 6708 High Drive, Shawnee Mission, Kan.
Kantor, Mrs. Samuel, 3604 W. 87th St., Leawood, Kan.
Kartus, Mrs. Irving, 2608 W. 67th St., Shawnee Mission, Kan.
Kaul, Mrs. Philip G., 5310 Mission Woods Road, Shawnee Mission, Kan.
Keairnes, Mrs. Harold, 3800 S. Woodland Ave., Independence
Keeler, Mrs. James E., 651 W. 57th St. 13
Kendall, Mrs. Charles A., 658 Red Road, Independence
Kennard, Mrs. G. Keith, 3658 Madison St. 11
Kent, Mrs. Bela, 5839 Cherokee St., Shawnee Mission, Kan.
Kerr, Mrs. Russell, 5938 Blue Hills Road 10
Ketcham, Mrs. William M., 429 E. Meyer Blvd. 31
Kettner, Mrs. Edward G., 6510 Milhaven Drive, Shawnee Mission, Kan.
Kienberger, Mrs. Paul A., 10605 E. 35th Ter., Independence
Kiene, Mrs. Richard H., 5825 High Drive,
Kimball, Mrs. Merritt H., 610 E. 36th St. 9 Shawnee Mission, Kan.
King, Mrs. Tenbrook, 8228 Linden Drive, Prairie Village, Kan.
Kitchen, Mrs. W. M., 1209 W. 58th St. 13
Klein, Mrs. E. H., 7011 Roe St., Prairie Village, Kan.
Knight, Mrs. John S., 5800 High Drive, Shawnee Mission, Kan.
Knight, Mrs. Lyle B., 108 Madison Lane, Lee's Summit
Knoch, Mrs. H. Kermit, 6606 Willow Lane, Shawnee Mission, Kan.
Koehler, Mrs. Charles A., 4834 Holly St. 12
Kohn, Mrs. Cecil M., 4618 Warwick St. 12
Korth, Mrs. William M., 6615 Overhill Road, Shawnee Mission, Kan.
Kranson, Mrs. Seymour J., 11 Hawthorne Place, Independence
Kyger, Mrs. John E., 1512 W. 23rd Ter., Independence
Lacy, Mrs. N. Eugene, 445 W. 68th Ter. 13
Lally, Mrs. James J., 800 W. 52nd Ter. 12
Lamar, Mrs. Frederick C., 803 W. 48th St. 12
Lamar, Mrs. Robert F., 800 W. 53rd Ter. 12
Lapp, Mrs. Harry C., 5235 Rockhill Road 10
Latham, Mrs. Raymond W., 3008 W. 67th St., Prairie Village, Kan.
Lauer, Mrs. Daniel J., 21 E. 67th St. 13
Laughlin, Mrs. E. O., 3701 Broadway 11
Layton, Mrs. Ira C., 1025 Greenway Ter. 13
Leifer, Mrs. William, 2001 W. 70th St., Prairie Village, Kan.
Leitch, Mrs. Cecil G., Route 2, Box 222, Blue Springs
Leitz, Mrs. Frank B., 6832 Locust St. 31
LeMoine, Mrs. Albert N. Sr., 9200 High Drive, Leawood, Kan.
Leo, Mrs. William A., 4505 W. 66th St., Prairie Village, Kan.
Lewis, Mrs. Revis, 1001 W. 56th St. 13
Lichtor, Mrs. Alexander, 5436 Neosho Ave., Shawnee Mission, Kan.
Lichtor, Mrs. Joseph M., 2109 W. 70th St., Prairie Village, Kan.
Lieberman, Mrs. B. Albert Jr., 424 W. 70th St. 13
Liersch, Mrs. Josepha C., 815 E. Gregory Blvd. 31
Lilly, Mrs. Terry E. Jr., 6515 Belinder Road, Shawnee Mission, Kan.
Lindquist, Mrs. Carl N., 6437 Hodges Drive, Shawnee Mission, Kan.
Link, Mrs. Vance E., 1201 W. 36th St., Independence
Lloyd, Mrs. Ivan E., 1816 Rankin Drive, Independence
Long, Mrs. R. Stacy, 3343 Blue Ridge Blvd., Independence
Lowell, Mrs. Paul, 4742 Liberty St. 12
Lytton, Mrs. George J., 3408 W. 79th St., Prairie Village, Kan.
Mangels, Mrs. Kenneth A., 1103 W. 36th Ter., Independence
Mantz, Mrs. Herbert L., 1209 Romany Road 13
Marks, Mrs. Mark M., 6537 Summit St. 13
Marshall, Mrs. Cameron F., 2500 W. 65th St., Shawnee Mission, Kan.
May, Mrs. James W., 3501 W. 63rd St., Shawnee Mission, Kan.
Mayer, Mrs. John H. Jr., 829 W. 55th St.
McCanse, Mrs. Andrew, 1537 Lexington St.
McCanse, Mrs. Raymond, 411 W. 50th St.
McClanahan, Mrs. Robert C., 6456 Overbrook Road, Shawnee Mission, Kan.
McConchie, Mrs. James E., 2719 S. Crysler St., Independence
McCoy, Mrs. Fred, 5720 Foster St., Shawnee Mission, Kan.
McCubbin, Mrs. C. Roy, 53 Jansses Place
McCunniff, Mrs. William B., 3719 Jarboe St.
McDonald, Mrs. Victor G., 8817 Aberdeen St., Leawood, Kan.
McDonnell, Mrs. John F., 5411 Central St.
McFarland, Mrs. M. Donald, 5830 High Drive, Shawnee, Kan.
McGannon, Mrs. Paul T., 4806 Pawnee St., Shawnee Mission, Kan.
McHale, Mrs. Thomas C., 3003 W. 90th Ter., Leawood, Kan.
McKee, Mrs. Joseph W., 310 W. 49th
McKee, Mrs. Wallace P., 3415 W. 74th Ter., Prairie Village, Kan.
McLeod, Mrs. John, 9 E. 67th St.
McMillan, Mrs. Thomas E., 3409 W. 68th St., Shawnee Mission, Kan.
McVay, Mrs. James R. Sr., 856 W. 62nd St.
McVay, Mrs. James R. Jr., 1233 W. 63rd Ter.
Melgaard, Mrs. S. Ross, 6831 Cherry St.
Meyer, Mrs. Paul W., 5160 Sunset Drive
Meyers, Mrs. Harold L., 1901 Brookwood Road, Shawnee Mission, Kan.
Miles, Mrs. George O., 2231 W. 63rd St., Shawnee Mission, Kan.
Miller, Mrs. Clint L., 201 Madison St., Lee's Summit
Miller, Mrs. Gerald L., 836 W. 51st St.
Miller, Mrs. Max I., 4001 W. 66th St., Prairie Village, Kan.
Miller, Mrs. Wade H., 4550 Warwick Blvd.
Miller, Mrs. Wilson H., 6400 Verona Road, Shawnee Mission, Kan.
Mixson, Mrs. William C., 6501 Sagamore Road, Shawnee Mission, Kan.
Montello, Mrs. Samuel A., 4109 Delmar Drive, Prairie Village, Kan.
Mooney, Mrs. Justin L., 5717 Windsor Road, Shawnee Mission, Kan.
Mooney, Mrs. Marcel L., 6439 Ensley Lane, Prairie Village, Kan.
Morgan, Mrs. David B., 6513 Jefferson St.
Moriarty, Mrs. Lauren R., 1239 W. 61st St. Ter.
Morrow, Mrs. Raymond L., 17 W. 69th St.
Mosser, Mrs. Robert S., 3114 S. Norton St., Independence
Mueller, Mrs. Martin J., 6441 Holmes St.
Mullen, Mrs. Leo M., 4443 Paseo
Murphy, Mrs. Edward S., 421 W. 68th St.
Murphy, Mrs. Robert J., 6428 High Drive, Shawnee Mission, Kan.
Myers, Mrs. John S., 5401 W. 65th Place, Shawnee Mission, Kan.
Myers, Mrs. Robert M., 804 W. 65th St.
Myers, Mrs. Wilson A., 425 Huntington Road
Naime, Mrs. Mansour J., 5209 W. 79th St., Shawnee Mission, Kan.
Nash, Mrs. George W., 4017 Booth St.
Needels, Mrs. Orval T., 207 W. 67th Ter.
Nelson, Mrs. Bentley A., 6429 Eillow Lane, Shawnee Mission, Kan.
Nesselrode, Mrs. John H., 3510 S. McCoy St., Independence
Nickson, Mrs. Charles E. Jr., 4425 Larson St.
Nicolay, Mrs. Kenneth, 4049 Brookridge Drive, Shawnee Mission, Kan.
Nigro, Mrs. E. Robert, 1047 W. 53rd Ter.
Noltensmeyer, Mrs. Milton, 3305 W. 50th Ter., Shawnee Mission, Kan.
Nunn, Mrs. P. M., 3418 Karnes Blvd. 11
O'Brien, Mrs. Leo A., 5401 Wyandotte St. 12
O'Hearne, Mrs. John J., 5529 High Drive, Shawnee Mission, Kan.
O'Neil, Mrs. James H., 6729 Rockhill Road 31
Overesch, Mrs. Harry B., 6215 Ensley Lane, Shawnee Mission, Kan.
Ozar, Mrs. Milton B., 109 E. Dartmouth Road 13
Padfield, Mrs. Earl G., 1900 W. 61st Ter., Shawnee Mission, Kan.
Pakula, Mrs. Sidney F., 5225 Charlotte St. 10
Pallett, Mrs. Harold A., 4618 Warwick St. 12
Parker, Mrs. Hubert, 1200 W. Red Bridge Road 14
Passman, Mrs. Harold, 416 E. 72nd Ter. 31
Pearson, Mrs. Paul, 5820 Howe Drive, Shawnee Mission, Kan.
Peete, Mrs. Don C., 3717 Belleview St. 11
Perll, Mrs. Maurice F., 830 W. 61 Ter. 13
Perry, Mrs. Ralph, 7140 Sni-A-Bar Road 29
Peterson, Mrs. Milton C., 3000 W. 67, Shawnee Mission, Kan.
Petry, Mrs. E. L., 6520 Reeds Drive, Shawnee Mission, Kan.
Pfeutze, Mrs. Edwin L., 5407 W. 100 Ter., Overland Park, Kan.
Pinsker, Mrs. Oscar T., 6541 Granada Drive, Prairie Village, Kan.
Piper, Mrs. D. K., 3301 E. Meyer St. 32
Pipkin, Mrs. Garrett, 5427 Baltimore Ave. 12
Pollock, Mrs. Leo H., 5235 Rockhill Road 10
Pope, Mrs. Charles H. Jr., 14401 E. 40, Independence
Porter, Mrs. Louis, 6017 McGee St. 13
Powers, Mrs. John M., 3838 Blue Ridge Blvd., Independence
Preston, Mrs. Albert Jr., 606 W. Meyer St. 13
Printz, Mrs. Joseph H., 820 W. 64 Ter. 13
Pugh, Mrs. Richard G., 600 Dickinson Road, Independence
Quer, Mrs. Erich, 6820 Tomahawk Road, Shawnee Mission, Kan.
Quistgard, Mrs. Paul C., 7300 Manchester St. 33
Raich, Mrs. Robert A., 5910 Locust St.
Ramey, Mrs. Ehret O., 8907 Belleview St. 14
Rector. Mrs. Joe L. Jr., 5323 Fairway Road, Shawnee Mission, Kan.
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Riller, Mrs. L. E., 3724 Holmes St. 9
Rinkel, Mrs. Herbert J., 6405 Sagamore Road, Prairie Village, Kan.
Roberts, Mrs. Harold M., 1005 Brentwood Circle 12
Roberts, Mrs. Sam E., 5964 Overhill Road, Shawnee Mission, Kan.
Robinson, Mrs. Arthur W., 6600 Wenonga Road, Shawnee Mission, Kan.
Robinson, Mrs. Kip, 1015 W. 58 Ter. 13
Robinson, Mrs. G. Wilse Jr., 110 Vine St., Colorado Springs, Colo.
Robinson, Mrs. William J., 9931 Lee Circle, Shawnee Mission, Kan.
Robison, Mrs. James Jr., 4203 W. 92 Ter., Shawnee Mission, Kan.
Rodgers, Mrs. George G., 6305 N. Woodland Ave. 18
Rubin, Mrs. Sidney, 1287 W. 72nd St. 14
Rubnitz, Mrs. Leon H., 210 W. 94th St. 14
Saferstein, Mrs. A. Lester, 6859 Cherry St. 31
Samuelson, Mrs. E. A., 1000 W. Gregory Blvd. 14
Sanders, Mrs. Clarence E., 4700 Roanoke Parkway 12
Sanders, Mrs. William F., 1004 W. 66th Ter. 13
Sauer, Mrs. Gordon C., 830 W. 58 Ter.
Saunders, Mrs. Everett L., 3839 S. Crysler St., Independence
Schaerrer, Mrs. W. C., 5245 Mercier St. 12
Schiffmacher, Mrs. Jack E., 4517 W. 65th St., Prairie Village, Kan.
Schorer, Mrs. Edwin H., The Walnuts 12
Schottman, Mrs. Gerhard W. Jr., 5902 W. 77th Ter., Prairie Village, Kan.
Schutz, Mrs. Richard B., 3913 W. 57 Ter., Shawnee Mission, Kan.
Seely, Mrs. Clark, 3000 W. 68th St., Shawnee Mission, Kan.
Shapiro, Mrs. L. M., 6429 Holmes St.
Shechter, Mrs. Nathan, 5723 Windsor Drive, Shawnee Mission, Kan.
Shelden, Mrs. Russell, 816 W. 58th Ter.
Shifrin, Mrs. Alexander, 6824 Holmes St.
Shireman, Mrs. Kenneth, 4415 Sunrise Drive
Shuey, Mrs. Herbert H., 933 E. 77th Ter.
Shumate, Mrs. D. L., 3707 Penn St.
Shypper, Mrs. M. J., 4738 Oak St.
Simon, Mrs. Sanford, 8129 Rosewood St., Shawnee Mission, Kan.
Sinclair, Mrs. Alexander Jr., 211 W. Concord Ave.

Singleton, Mrs. J. Milton, 835 W. 53rd Ter.
Skillman, Mrs. Robert K., 10335 High Drive, Shawnee Mission, Kan.
Skinner, Mrs. John O., 5108 Grand Ave.
Skinner, Mrs. John T., 824 Westover Road
Slentz, Mrs. Edwin L., 4812 W. 66th Ter., Shawnee Mission, Kan.
Slentz, Mrs. William A., 441 W. 59th Ter.
Slickman, Mrs. Robert A., 4937 Wyoming St.
Smith, Mrs. Arthur B., 10130 Pawnee Road, Leawood, Kan.
Smith, Mrs. Dale C., 5212 Reinhardt Ave., Shawnee Mission, Kan.
Smith, Mrs. Ira T., 3900 W. 90th Ter., Shawnee Mission, Kan.
Sneid, Mrs. Philip, 4201 W. 90th Ter., Overland Park, Kan.
Snider, Mrs. W. Ray, 6816 Holmes St.
Snider, Mrs. Sam H., 722 Ward Parkway
Spafford, Mrs. Allen L., 5552 Belinder Ave., Shawnee Mission, Kan.
Spurney, Mrs. Otto M., 10 E. 68th Ter.
Stacey, Mrs. Wallace R., 3407 Shady Bend Drive, Independence
Staggs, Mrs. William A., 641 E. 45th St.
Staley, Mrs. Harry R., 5028 Sunset Drive
Statland, Mrs. Harry, 1016 W. 69th Ter.
Statland, Mrs. Morris, 427 E. 64th Ter.
Steffen, Mrs. L. F., 5521 Crestwood Drive
Stelle, Mrs. Charles W., 7549 Wyoming St.
Stelmach, Mrs. Jack, 6100 Morningside Drive.
Stockton, Mrs. Raymond W., 5215 W. 81st St., Prairie Village, Kan.
Stockwell, Mrs. A. Lloyd, 5736 Windsor Drive, Shawnee Mission, Kan.
Strauss, Mrs. Carl F., 2127 W. 79th St., Shawnee Mission, Kan.
Stratemeier, Mrs. Edward, 9728 High Drive, Leawood, Kan.
Summers, Mrs. Caldwell, 7312 Jarboe St.
Sutton, Mrs. Richard L. Jr., 5400 Ward Parkway
Swisher, Mrs. Robert C., 6034 Lockton Lane, Shawnee Mission, Kan.
Szabados, Mrs. Ernest D., 1901 S. Leslie St., Independence
Tarson, Mrs. Solomon, 837 W. Gregory Blvd.
Tasker, Mrs. Charles B., 2721 W. 67th Ter., Shawnee Mission, Kan.
Terrill, Mrs. Robert S., 10223 Lee Blvd., Leawood, Kansas
Theel, Mrs. Otto Jr., 5911 Howe Drive, Shawnee Mission, Kan.
Thiele, Mrs. George H., 6526 High Drive, Shawnee Mission, Kan.
Thomas, Mrs. Christopher Jr., 4206 Homestead Drive, Prairie Village, Kan.
Thompson, Mrs. Charles L., 1256 W. 61st Ter.
Thorn, Mrs. Druery R., 8200 Ensley Lane, Leawood, Kan.
Tice, Mrs. Wayne K., 1915 Lake Drive, Independence
Trimble, Mrs. Wm. K., 6020 McGee St.
Trippe, Mrs. Harrison C., 8511 Lee Blvd., Leawood, Kan.
Trowbridge, Mrs. E. H. Jr., 6436 High Drive, Shawnee Mission, Kan.
Tutera, Mrs. Dominic, 1260 W. 63rd Ter.
Twin, Mrs. Edward, 2921 W. 67th Ter., Prairie Village, Kan.
Twyman, Mrs. Richard A., 1020 W. 56th St.
Underwood, Mrs. Dick H., 2008 W. 95th St., Leawood, Kan.
Underwood, Mrs. Ross H., 5522 Aberdeen Road, Shawnee Mission, Kan.
Unger, Mrs. Harold, 400 W. 68th St.
Valentine, Mrs. Herbert S., 1020 W. 69th St.
Van Biber, Mrs. James T., 3705 Northern Blvd., Independence
Van Buskirk, Mrs. William, 1909 W. 67th St., Shawnee Mission, Kan.
Van Del, Mrs. Dwight T., 6737 Rockhill Road
Vaughn, Mrs. James W., 2804 W. 77th St., Prairie Village, Kan.
Vilmer, Mrs. Charles E., 3016 W. 67th St., Shawnee Mission, Kan.
Vincent, Mrs. Jack C., 2003 W. 67th Ter., Shawnee Mission, Kan.
Virden, Mrs. Herbert H., 6533 High Drive, Shawnee Mission, Kan.
Voth, Mrs. Harold W., 5413 Neosho St., Shawnee Mission, Kan.
Wade, Mrs. Frederick E., 6421 Wornall Ter.
Wakefield, Mrs. Franklin H., 8352 Overbrook Road, Leawood, Kan.
Walker, Mrs. James C., 609 E. 96th St.
Walker, Mrs. John W., 8320 Ensley Lane, Leawood, Kan.
Walker, Mrs. Orville Jr., 604 Partridge Ave., Independence
Wall, Mrs. Harry C., 6000 Howe Drive, Shawnee Mission, Kan.
Wall, Mrs. Leonard A., 5011 Neosho Ave., Shawnee Mission, Kan.
Walthall, Mrs. Damon O., 6439 Jefferson St.
Ward, Mrs. Robert L., 3128 E. 49th St., North 19
Webster, Mrs. Joseph, 5532 Locust St.
Weiford, Mrs. Edward C., 2009 W. 68th St., Shawnee Mission, Kan.
Welker, Mrs. Joseph E., 6441 Summit Ave.
Wheeler, Mrs. Charles B., 820 W. 57th St.
Wheeler, Mrs. John H., 5650 Mission Drive, Shawnee Mission, Kan.
White, Mrs. Charles H., 6518 Overhill Road, Prairie Village, Kan.
White, Mrs. Stoughton F., 6815 Cherokee Lane, Shawnee Mission, Kan.
White, Mrs. William E., 613 W. 57th Ter.
Whiteman, Mrs. John R., 9729 Cherokee Lane, Leawood, Kan.
Whitman, Mrs. Doyle C., 6836 Cherokee Lane, Shawnee Mission, Kan.
Whitmore, Mrs. J. Stewart, 1039 W. 58th St.
Wien, Mrs. Irving A., 515 E. 78th St.
Wilhelm, Mrs. Warren F., 3100 W. 67th St., Shawnee Mission, Kan.
Wilkinson, Mrs. E. A., 2300 W. 69th St., Shawnee Mission, Kan.
Williams, Mrs. Delon A., 1252 Stratford Road
Williams, Mrs. Joseph C. Jr., 1231 W. 69th St.
Williams, Mrs. Roland D., 5320 Norwood St., Shawnee Mission, Kan.
Williams, Mrs. Vincent T., 4400 Blue Ridge Blvd.
Willits, Mrs. Lyle C., 1224 W. 67th St.
Willoughby, Mrs. Jean B., 1019 W. 69th Ter.
Wilson, Mrs. Brickhouse, 700 Ward Parkway
Wilson, Mrs. Clifford C., 5531 Neosho Lane, Shawnee Mission, Kan.
Winer, Mrs. Herbert J., 8131 Rosewood Drive, Prairie Village, Kan.
Winston, Mrs. Bernard H., 1006 W. 67th St.
Wise, Mrs. George W., 4610 Homestead Drive, Prairie Village, Kan.
Wolf, Mrs. Jack, 6125 Morningside Drive
Woodward, Mrs. William W., 12914 E. 39th Ter., Independence
Workman, Mrs. Charles, 6609 Milhaven Drive, Mission, Kan.
Wortmann, Mrs. Robert F., 2819 W. 66th Ter., Shawnee Mission, Kan.
Wright, Mrs. R. Paul, 4902 Belinder Road, Shawnee Mission, Kan.
Wu, Mrs. William, 4414 Homestead Drive, Prairie Village, Kan.
Young, Mrs. James E., 9817 Lee Circle, Leawood, Kan.
Young, Mrs. Paul R., 7424 Gregory Circle
Zellermayer, Mrs. Jack, 5801 Lockton Lane, Shawnee Mission, Kan.
Ziegler, Mrs. Allen M., 1401 S. Market St., Holden
Ziegler, Mrs. Dewey K., 8347 Delmar Lane, Prairie Village, Kan.
Zoglin, Mrs. Nathan, 333 W. Meyer St.
Zuber, Mrs. Harold V., 6800 Cherokee Lane, Shawnee Mission, Kan.

JASPER COUNTY
(Joplin)

Allen, Mrs. David O., 505 West 34th St.
Barnett, Mrs. Norman H., R. 3, Box 181, Tabor Woods
Birsner, Mrs. Frank, 1717 River Road, Carthage
Black, Mrs. Marvin H., 1001 W. Murphy Rd.
Burch, Mrs. John E., 1345 Crest Drive
Chesney, Mrs. George W., 2416 E. 12 St.
Cohle, Mrs. Richard, 1609 Lilac Lane, Carthage
Craig, Mrs. Irwin T., 2525 E. 12 St.
Crawford, Mrs. A. L., 2931 Pearl St.
Crispell, Mrs. Lawrence S., 911 Kensington St.
Curl, Mrs. Howard, 102 Moffett St.
DeTar, Mrs. Burleigh Jr., 2736 E. 15 St.
DeTar, Mrs. Burleigh Sr., Timber Lane, Duquesne
Ferguson, Mrs. Lewis H., 3102 Minnesota St.
Ferguson, Mrs. Ralph, 420 East 33 St.
Graves, Mrs. F. Burton, Route 4, Box 491
Grubb, Mrs. Paul H., 607 Washington St., Galena, Kan.
Hamilton, Mrs. Eugene, 615 N. Pearl Ave.
Holtzman, Mrs. Samuel, 108 Sergeant St.
Hornback, Mrs. Edward R., 2609 E. 12 St.
Hurst, Mrs. W. W., 2502 E. 13 St.
Isbell, Mrs. C. H., 1046 S. Garrison Ave., Carthage
Jeans, Mrs. Virgil, 629 Islington Place
Kenney, Mrs. V. E., 728 Chestnut St.
Kirschman, Mrs. Robert E., Route 4, Box 359
Koehler, Mrs. John W., 3010 Wall St.
Longenecker, Mrs. Joe L., 701 N. Jackson St.
Maddox, Mrs. John D., 1330 Crest Drive
McIntyre, Mrs. Emery, 1803 S. Maple St., Carthage
McNew, Mrs. W. T., 1204 S. Main St., Carthage
McPike, Mrs. Lloyd H., 3317 Oak Ridge Drive
Myers, Mrs. Roy E., 623 Sergeant St.
Paddock, Mrs. Charles S., 1500 Range Line
Papp, Mrs. Sandor D., 3343 Pearl St.
Patterson, Mrs. Donald R., Route 1, Box 481
Patterson, Mrs. Grover S., 1717 River Road, Carthage
Post, Mrs. Winfred L., 2630 E. 15th St.
Reid, Mrs. Charles T., 614 Hampton Place
Royce, Mrs. J. J., Sarcoxie
Schoeberl, Mrs. C. B., 3111 E. 4th St.
Schulte, Mrs. Gregory A., 2515 E. 12th St.
Scorse, Mrs. Sidney W., 619 W. 2nd St.
Simmons, Mrs. Leroy, Sarcoxie
Smith, Mrs. Roland T., 426 N. Pearl St.
Smith, Mrs. Russell W., 315 Euclid St., Carthage
Stormont, Mrs. R. W., 28 S. Webb St., Webb City
Walker, Mrs. Paul W., 1022 N. Sergeant St.
Wetzel, Mrs. Fred S., 1503 S. Garrison St., Carthage
Wieman, Mrs. Harry K., 536 N. Wall St.
Wood, Mrs. George H., 530 E. Highland Ave., Carthage
Wooldridge, Mrs. Bart F., 1435 Crest Drive
Wright, Mrs. George W., 222 S. Webb St., Webb City
Young, Mrs. C. C., 2518 E. 13th St.

JEFFERSON COUNTY

Allbee, Mrs. Roger, Crystal City
Bolgar, Mrs. Bertalan, Festus
Donnell, Mrs. Harold, DeSoto
Donnell, Mrs. Hart, Crystal City
Donnell, Mrs. Thomas, DeSoto
Fallet, Mrs. Charles, DeSoto
Judge, Mrs. Thomas, Crystal City
Kozal, Mrs. Frank, Crystal City
Mayfield, Mrs. Logan, Crystal City
McKinstry, Mrs. Karl, DeSoto
Rutledge, Mrs. John, Crystal City
Senn, Mrs. Emmett, Herculaneum

JOHNSON COUNTY
(Warrensburg)

Cooper, Mrs. R. Lee, 411 W. Gay St.
Damron, Mrs. Oscar H., 612 N. Maguire St.
Folkner, Mrs. Albert L., 316 Hillcrest Drive
Frein, Mrs. D. E., Leeton
Gonzalez, Mrs. M. Garza, 508 Jefferson St.
Harkness, Mrs. Harry H., Burkarth Road
Johnson, Mrs. Charles S., 821 S. Maguire St.
Lederer, Mrs. Charles M., 617 Clark St.
Maxson, Mrs. T. Reed, Arilen Acres

LAFAYETTE-RAY COUNTIES

Best, Mrs. Robert B., Higginsville
Bodyston, Mrs. Wayne, Odessa
Brady, Mrs. Hugh, Concordia
Brasher, Mrs. Ben H., Aull's Lane, Lexington

Cook, Mrs. Edna, Richmond
Cook, Mrs. Thomas B., Richmond
Cope, Mrs. Joseph S., Lexington
Crozier, Mrs. Frank, Richmond
Davault, Mrs. George, Richmond
Fulkerson, Mrs. Wilbur, Higginsville
Johnston, Mrs. Esther, Concordia
Kelling, Mrs. Douglas, Waverly
Kelling, Mrs. George, Waverly
Kelling, Mrs. Jordan, Waverly
Koppenbrink, Mrs. Walter E. Jr., Higginsville
Koppenbrink, Mrs. Walter E. Sr., Higginsville
Liston, Mrs. Odus, Oak Grove
Martin, Mrs. Wilfred E., Odessa
McFadden, Mrs. Gene, Waverly
Riley, Mrs. Charles, Richmond
Ward, Mrs. Joe W., 1004 Frances St., Lexington
Williams, Mrs. John, Oak Grove

MARION COUNTY
(Hannibal)

Bach, Mrs. Lysle, 1737 Harrison Hill
Burns, Mrs. Francis, 2903 Hill St.
Canella, Mrs. John, 3254 St. Mary's Ave.
Clisham, Mrs. John, 300 Virginia St.
Fischer, Mrs. Thomas, 8 Orlando Drive
Foreman, Mrs. Phillip, 3342 West Ely Road
Glascock, Mrs. Donald, Palmyra
Greene, Mrs. Harry, 1911 Harrison Hill
Hamlin, Mrs. Wyeth, 3405 St. Mary's Ave.
Landau, Mrs. Dan, 2901 Pleasant St.
Lanning, Mrs. Robert, 7 Cardiff Drive
Latimer, Mrs. Walter, 2302 Palmyra Road
Lucke, Mrs. E. M., 4000 McMasters Ave.
Purcell, Mrs. Paul, Hull, Ill.
Rapp, Mrs. Earl, 19 Holiday Lane
Roller, Mrs. Merrill, 1000 Country Club Drive
Smith, Mrs. William, 3101 St. Mary's Ave.
Steele, Mrs. James, 1106 Hill St.
Strong, Mrs. Richard, 10 Riverpoint Drive
Sultzman, Mrs. Francis, 1 Cardiff Lane
Sweets, Mrs. Henry Jr., 207 N. Sixth St.
Walterscheid, Mrs. John, 12 Riverpoint Drive
Well, Mrs. Julius, Palmyra

MEMBERS-AT-LARGE

Bauman, Mrs. Henry C., 921 W. Third St., Maryville
Bloom, Mrs. W. A., 200 Howard St., Fayette
Bozzo, Mrs. Raymond J., 408 W. 2nd St., Washington
Brenner, Mrs. Paul A., 108 W. Washington Ave., Owensville
Campbell, Mrs. James, 623 Sunset Drive, Macon
Cohrs, Mrs. Clarence C., 2 Flower Lane Ter., Moberly
Comeau, Mrs. Richard, Dexter
Crider, Mrs. A. J., Dixon
Davis, Mrs. Landis Y., Canton
Dreyer, Mrs. Philip V., Huntsville
Dunshee, Mrs. Robert E., 145 Sunset Drive, Maryville
Eggleston, Mrs. Donald E., 410 N. Rutherford St., Macon
Fleming, Mrs. Jacob W. Jr., 1 Windsor Place, Moberly
Fleming, Mrs. Thomas S., 517 Fort St., Moberly
Garrison, Mrs. T. W., Box 548, Camdenton
Grim, Mrs. Edward M., 42 Kellwood Drive, Kirksville
Huber, Mrs. L. E., 400½ W. Reed St., Moberly
Kimball, Mrs. I. W., 6600 Tower Drive., Parkville
Long, Mrs. David, Lake Lotawana M40, Lee's Summit
McNeel, Mrs. Lee A. Jr., Valley View Angus Farm, Greenfield
Muench, Mrs. Ludwig O., 1530 Riverview Drive, Washington
Netherton, Mrs. George F., 312 E. Third St., Cameron
Neubeiser, Mrs. Benedict, Headacres Farm, Rt. 1, Portage des Sioux
Parker, Mrs. Graham, Platte City
Post, Mrs. John P., Grand Ave., Washington
Powers, Mrs. John A., 315 N. Pine, Harrison, Ark.
Reeder, Mrs. Charles C., New Madrid
Richardson, Mrs. W. R., West Springfield Road, Union
Roberson, Mrs. John H., P.O. Box 270, Lilbourn
Schmidt, Mrs. Herbert H., Box 18, Marthasville
Shaw, Mrs. Carvel T., 1008 Washington St., Hermann
Shaw, Mrs. Wm. J., 700 West Davis St., Fayette
Strehlman, Mrs. B. G., 510 West End Ave., Union
Stricker, Mrs. E. A., 501 Evergreen St., St. James
Summers, Mrs. Jacob H., Knight Bldg., Lebanon
Thurman, Mrs. H. C., 6405 Woodland Drive, N.W., Parkville
Waltrip, Mrs. Roy T., 931 Hawthorne Drive, Sikeston

MILLER-MORGAN-MONITEAU COUNTIES

Buehler, Mrs. Carl T. Jr., Eldon
Burke, Mrs. J. P., California
Fulks, Mrs. Richard B., California
Gallagher, Mrs. Lionel M., California
Gunn, Mrs. Jack, Versailles
Latham, Mrs. Kenyon, California
Lyle, Mrs. Ray, Versailles
Shelton, Mrs. E. O., Eldon
Washburn, Mrs. J. L., Versailles

MINERAL AREA
(St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve Counties)

Appleberry, Mrs. Charles H., 706 West Main St., Flat River
Appleberry, Mrs. Reuben, 815 W. Columbia St., Farmington
Brennan, Mrs. John A., 2 Hoctor Drive, Farmington
Bull, Mrs. Ben, 109 S. Knob St., Ironton
Carleton, Mrs. Charles E., 501 Center St., Farmington
Chastain, Mrs. C. W., R.R. 3, Farmington
Crouch, Mrs. F. Richard, 714 Ste. Genevieve St., Farmington
Dennis, Mrs. Paul, 709 Tyler St., Flat River
Evans, Mrs. Albert L., 113 Benham St., Bonne Terre
Ford, Mrs. William, 34 Tanglewood Court, Farmington
Foster, Mrs. Jack L., Desloge
Grossman, Mrs. Marvin, 500 Marshall St., Fredericktown
Haw, Mrs. Marvin T., 207 Fite St., Bonne Terre
Huckstep, Mrs. Robert A., 1313 N. Washington St., Farmington
Hunt, Mrs. John W. Jr., 110 Bell St., Leadwood
Karraker, Mrs. Alvan G., 507 North St., Farmington
Mullen, Mrs. Jack, R.R. 2, Bonne Terre
Oliver, Mrs. George A., 117 Oak Hill Downs, Farmington
Taylor, Mrs. Van W., 54 Church St., Bonne Terre
Watkins, Mrs. George L., 813 Dewey St., Farmington
Watkins, Mrs. George Linn, 812 Dewey St., Farmington
Yeargain, Mrs. John P., Irondale

OZARK AREA

(Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald Counties)

Anderson, Mrs. Paul B., R.R. 3, Neosho
Bailey, Mrs. Alan, Mo. State Sanatorium, Mount Vernon
Blankenship, Mrs. G. W., R.R. 3, Neosho
Bowman, Mrs. M. C., South Highway 71, Neosho
Brasher, Mrs. C. A., Mo. State Sanatorium, Mount Vernon
Carter, Mrs. James R., 718 Oakridge Drive, Neosho
Donley, Mrs. Robert R., 617 W. Cleveland St., Monett
Edwards, Mrs. F. L., 510 Grand Ave., Monett
Glass, Mrs. W. J., 402 Grand Ave., Monett
Glover, Mrs. Kenneth, 801 S. Market St., Mount Vernon
Hobbs, Mrs. G. H., Hoberg Rd., Mount Vernon
Kenney, Mrs. R. E., Jct. Highway 60 & 71, Neosho
Kerr, Mrs. Frank T., 511 W. Cleveland St., Monett
Langeluttig, Mrs. H. V., State Sanatorium, Mount Vernon
McCallum, Mrs. J. C., 404 Lincoln St., Aurora
Olive, Mrs. George C., R.R. 3, Neosho
Price, Mrs. Charles H., R.R. 1, Cassville
Taylor, Mrs. L. T., 708 Neosho Blvd., Neosho
Whitehead, Mrs. Frank F., 700 Oakridge Drive, Neosho
Wommack, Mrs. Fred, Crane
Yates, Mrs. J. Lewis, State Sanatorium, Mount Vernon

PERRY COUNTY
(Perryville)

Blaylock, Mrs. G. A., 308 W. Ste. Maries, Perryville
Carron, Mrs. Oscar A., 208 N. Waters St.
DeGenova, Mrs. Gerald H., 1280 Ridgeway Drive, Ste. Genevieve
Fairchild, Mrs. James F., R. 2
Feltz, Mrs. Lawrence W., 20 S. Feltz
Fischer, Mrs. Theodore, Altenburg
Lutkewitte, Mrs. Joseph F., 33 St. Jude Drive, Ste. Genevieve
McDermott, Mrs. Alfred E., 619 Bruce St.
Utterman, Mrs. William F., 614 S. Main St.

PETTIS COUNTY
(Sedalia)

Beckmeyer, Mrs. W. A., 719 W. 4th St.
Bess, Mrs. William E., 1600 W. 10th St.
Bishop, Mrs. William T., 616 W. 6th St.
Boger, Mrs. John W., 2803 Skyline Drive
Brady, Mrs. Charles H., 720 W. 5th St.
Braverman, Mrs. Elliot M., 1101 New England Drive
Campbell, Mrs. Albert J., 1500 W. 16th St.
Campbell, Mrs. Albert J. Sr., 319 E. Broadway
Dyer, Mrs. D. P., 2511 Stephenson Ave.
Edwards, Mrs. David R., 1619 S. Moniteau St.
Fisher, Mrs. Stanley D., 2200 S. Kentucky St.
Gonser, Mrs. Karl B., 1619 W. Broadway
Hite, Mrs. H. A., Greenridge
Hopkins, Mrs. Thomas J., 1506 W. Broadway
Lamy, Mrs. John E., 509 W. Broadway
Long, Mrs. Frank B., 723 W. 7th St.
Love, Mrs. J. G., 612 S. Kentucky St.
Mitchell, Mrs. John E., Broadway Arms Apt.
Osborne, Mrs. Charles D., 710 W. Broadway
Proctor, Mrs. Donald C., 908 W. Broadway
Roberts, Mrs. Paul A., 101 E. Marshall St., Sweet Springs
Shy, Mrs. Milton P., 1023 W. 7th St.
Siegel, Mrs. Carl D., 810 S. Barrett St.
Snavely, Mrs. E. C., 908 S. Grand Ave.
Stauffacher, Mrs. Gordon C., 1313 W. Broadway
Stewart, Mrs. Robert H., 201 Driftwood St.
Trader, Miss Frances W., 219 W. 7th St.
Walters, Mrs. A. L., 1000 W. 7th St.
Worley, Mrs. C. A., 102 W. Ray St., Sweet Springs

ST. LOUIS CITY
(St. Louis)

Ahlering, Mrs. George H., 7129 Lindell Blvd. 30
Allen, Mrs. Henry C., 655 N. Forest Ave. 19
Allen, Mrs. Hollis N., 681 N. Forest Ave. 19
Arneson, Mrs. A. N., 6314 Waterman Ave. 30
Austin, Mrs. Martin G., 119 Summit St. 19
Backer, Mrs. Matt H. Jr., 101 Flamingo Drive 23
Bandle, Mrs. Donald F., 3801 January Ave. 9
Barden, Mrs. Frank W., 41 Beaver Drive 41
Bartlett, Mrs. Robert W., 6459 Wydown Ave. 5

Bartlett, Mrs. Willard Jr., 6345 Ellenwood Ave. 5
Bartlett, Mrs. Willard Sr., 53 Westmoreland Place 8
Bartnick, Mrs. Mitchell L., 3895 Holly Hills Blvd. 16
Bassett, Mrs. R. B., 2 Beverly Place 12
Becke, Mrs. William G., 18 Lorenzo Lane 24
Bell, Mrs. Robert M., 35 Glen Road 19
Benjamin, Mrs. Durand, 7340 Navarre Circle 23
Berland, Mrs. Harry I., 29 Granada Way 24
Bilsky, Mrs. Nathan, 7840 Lafon Place 30
Bindbeutel, Mrs. A. H., 3953 Holly Hills Blvd. 16
Bircher, Mrs. John L., 3932 Federer Place 16
Boemer, Mrs. Lilburn C., 49 Clermont Lane 24
Bohrer, Mrs. Harry C., 4112 Flora Place 10
Bosse, Mrs. Edwin H. Sr., 6906 Washington Ave. 30
Bowdern, Mrs. Edward H., 2 Berkshire Blvd. 17
Boyd, Mrs. Arthur M., 6556 Delor Ave. 9
Bradley, Mrs. Frank R., 7404 Oxford Drive 5
Bradley, Mrs. John M., 275 N. Union Blvd.
Brennan, Mrs. George A., 10641 Rebecca Drive 28
Brennan, Mrs. Robert A., 6030 Highfield Road 9
Brodeur, Mrs. Armand E., 141 Horseshoe Drive 22
Brown, Mrs. Goronwy O., 5290 Waterman Ave. 8
Brown, Mrs. Goronwy O. Jr., 6359 Waterman Ave. 30
Brown, Mrs. Clyde O., 7419 York Drive 5
Brown, Mrs. Eugene, 379 N. Taylor Ave. 8
Brown, Mrs. James B., 4 N. Kingshighway Blvd. 8
Brown, Mrs. Seymour, 2 Ricardo Lane 24
Bruns, Mrs. Kenneth, 6318 Washington Blvd. 30
Budd, Mrs. John J. Jr., 6144 McPherson St. 12
Burns, Mrs. Francis J., 6500 Ellenwood St. 5
Burroughs, Mrs. W. H., 7327 Pershing Ave. 30
Burst, Mrs. Donald O., 61 Trent Drive 24
Byrne, Mrs. John E., 5878 Delor St. 9
Calkins, Mrs. Delevan, 1515 Schulte Road 41
Cameron, Mrs. Solon, 43 Washington Ter. 12
Cannon, Mrs. Edward M., 20 Briarcliff Lane 24
Cannon, Mrs. William J., 43 Clermont Lane 24
Cappel, Mrs. Powell B., 27 Old Westbury Lane 19
Carney, Mrs. Joseph E., 6625 Penrod Ave. 9
Carroll, Mrs. George A., 7831 Delmar Blvd. 30
Chamness, Mrs. James T., 3 Town & Country Drive 24
Cherre, Mrs. Charles J., 10 Haddington Court 5
Ciapciak, Mrs. Stanley J., 30 Log Cabin Drive 24
Clark, Mrs. Clarence L., 95 Pebblebrook Lane 41
Collodi, Mrs. George A., 20 Southcote Road 17
Conrad, Mrs. A. H. Jr., 9 Dromare Road 24
Conrad, Mrs. Marshall B., 8542 Colonial Lane 24
Cook, Mrs. Ralph L., 44 Nolan Drive 22
Cooper, Mrs. Thomas J., 30 Beverly Drive 32
Correnti, Mrs. Nicholas A., 6617 Itaska St. 9
Costa, Mrs. Dominic V., 10 Devondale Lane 31
Crossman, Mrs. Robert W., 1509 Holly Drive 19
Daake, Mrs. John W., 48 Portland Place 8
Dalton, Mrs. Arthur R., Conway & Mason Road 41
Dames, Mrs. Richard J., 8905 Eager Road 17
Diehr, Mrs. Alvin H., 29 Rio Vista Drive 24
DiLeo, Mrs. Senatro W., 667 Langton Drive 5
Donahoe, Mrs. James L., 7336 Princeton St. 30
Doubek, Mrs. John C., High Ridge
Doyle, Mrs. Charles R., 28 Kingsbury Place 12
Drake, Mrs. Truman G., 6344 Alexander Drive 5
Dreyer, Mrs. Carl J., 45 Glen Road 19
Dripps, Mrs. Roy C., 5210 Jamieson St. 9
Dubuque, Mrs. Theodore J. Jr., 95 Aberdeen Place 5
Eades, Mrs. Dee W., 6 Kingsbury Place 12
Edwards, Mrs. Joseph C., 610 West Polo Drive 5
Eigel, Mrs. Edwin G., 3654 Flora Place 10
Ernst, Mrs. Edwin C., 2 Schultz Road 22
Farley, Mrs. William, 2 Spoede Acres 41
Farrell, Mrs. Robert J., 6906 Roberts Ave. 30
Feller, Mrs. Harold H., 5834 Bermuda Road 21
Finn, Mrs. Murray E., 4904 Pershing Place
Fish, Mrs. Virgil O., 2500 Town & Country Lane 31
Fitzgerald, Mrs. Leo P., 7219 Cornell Ave. 30
Flotte, Mrs. Bernard H., 6 Lila Lane, Florissant
Flotte, Mrs. Sylvester, 9113 Glen Garden 36
Ford, Mrs. Lee T. Jr., 45 Green Acres 37
Franklin, Mrs. Max S., 7536 Buckingham Drive 5
Frerking, Mrs. Herbert W., 11 Bridle Lane 31
Fries, Mrs. Armand D., 11 W. Geyer Lane 31
Fries, Mrs. John, 106 Frontenac Forest 31
Gantner, Mrs. George E. Jr., 6641 Pershing Ave. 30
Gettinger, Mrs. Andrew J., 8689 Oriole St. 15
Gissy, Mrs. Carl J., 9999 Litzsinger Road 24
Glaser, Mrs. Martin J., 3550 Hawthorne Road 4
Glick, Mrs. Harry N., Mason Road, Rt. 13 22
Goldman, Mrs. Melvin L., 8650 Barby Lane 24
Gomez, Mrs. Cesar A., 18 Havenview St. 41
Grebel, Mrs. Clement B., 58 Grantwood Lane 23
Green, Mrs. William R., 10311 N. Sunswept Drive 41
Greiner, Mrs. Theodore, 7507 Washington Ave. 30
Gresick, Mrs. Robert J., 5475 Childress St. 9
Grogan, Mrs. F. M., 4166 Flora Place 10
Grueb, Mrs. Paul M., 6 Grantwood Lane 23
Gum, Mrs. William R., 706 Bellerive Blvd. 11
Gundlach, Mrs. Arthur, 8 Alden Lane 41
Gunn, Mrs. Walter T., 6742 Itaska St. 9
Haeberle, Mrs. Frederick S., 3206 Herbert St. 7
Hagebusch, Mrs. Omar E., 16 Covington Lane 32
Hall, Mrs. Preston C., 4243 Lafayette Ave. 10
Hall, Mrs. Robert A., 43 Washington Ter. 12
Hammond, Mrs. John J., 7245 Maryland Ave. 30
Hampton, Mrs. Stanley F., 93 Lake Forest 17
Hardesty, Mrs. John F., 5290 Waterman Ave. 8
Harkins, Mrs. William B., 7 Kingsbury Place 12
Harris, Mrs. Solon P., 7138 Maryland Ave. 30
Harrison, Mrs. Lee B., 44 Ridgemoor Drive 5
Hartnett, Mrs. Leo J., 34 Ridgetop Drive 17
Hassett, Mrs. Henry A., 4440 Lindell Blvd. 8
Hawk, Mrs. Bray O., 3534 Hawthorne Blvd. 4
Haynes, Mrs. Pugh, 8006 Gannon Ave. 30
Heinbecker, Mrs. Peter, 4643 Pershing Ave. 8
Henderlite, Mrs. John W., 3 S. Tealbrook Drive 41
Henschel, Mrs. Eugene V., 55 Broadview Drive 5
Hilbert, Mrs. Paul H., 5701 Penrod St. 9
Hildreth, Mrs. H. Rommel, 711 Middle Polo Drive 5
Hogan, Mrs. Patrick C., 8935 Westhaven Court 26
Hollo, Mrs. Vencel W., 5925 Lindell Blvd. 12
Hotz, Mrs. John W., 141 N. Gay St. 5
James, Mrs. Norman A., 9926 Parkway Drive 37
Jarvis, Mrs. Garth L., 6315 Waterman Ave. 30
Javaux, Mrs. E. J., 7820 Delmar Blvd. 30
Jensen, Mrs. Joshua E., 3 Brazillian Court 24
Jones, Mrs. Otey S., 2010 Longfellow Blvd. 4
Jones, Mrs. Richard A., 332 Calvert St. 19
Jones, Mrs. Vincent L., 123 N. Forsyth Blvd. 5
Karl, Mrs. Michael M., 14 Thorndell Drive 17
Kelley, Mrs. Robert W., 5371 Waterman Ave. 12
Kendig, Mrs. John H., 1609 Thrush Ter. 17
King, Mrs. Samuel J., 7206 Dale Ave. 17
Kinsella, Mrs. Edward D., 1157 Center Drive 17
Kirchner, Mrs. Walter C. G., 183 3rd Ave., Chula Vista, Calif.
Klein, Mrs. Harry A., 2 Sunswept Drive 41
Klippel, Mrs. Bernhardt W., 52 Fair Oaks 24
Kluegel, Mrs. William A., 2845 Gravois Ave. 18
Klym, Mrs. Nicholas, 1506 Doris Drive 38
Kneal, Mrs. Ellsworth, 725 S. Skinker Blvd. 5
Knight, Mrs. Franklin P., 11465 Fairlane Drive 26
Knight, Mrs. William A. Jr., 12 Briarcliff 24
Koetter, Mrs. A. F., 6208 Rosebury Drive 5
Koon, Mrs. Bernard T., 2623 Gurney Court 10
Kountz, Mrs. William B., 2619 Gurney Court 10
Koutsoumpas, Mrs. William, 3024 Hawthorne St. 4
Kowert, Mrs. Edward H., 330 Planthurst Road 19
Kramolowsky, Mrs. Helmuth H., 546 Sheffield Ave. 19
Ladd, Mrs. Charles B., 1237 Visitation Drive 25
Langsdorf, Mrs. Herbert S., 3681 Alberta Ave. 16
Lansche, Mrs. Elmer A., 8358 Racquet Drive 21
Lawton, Mrs. Thomas P., 410 N. Newstead Ave. 8
Leavy, Mrs. Charles A., 9058 Monmouth Drive 17
Lembeck, Mrs. Joseph A., 4103 Flora Place 10
Lerwick, Mrs. Everett R., 40 Portland Place 8
Lewis, Mrs. J. Eugene Jr., 7106 Washington Ave. 30
Lohr, Mrs. Curtis H., 601 S. Brentwood Blvd. 5
Lonsway, Mrs. Maurice J. Jr., 245 N. Price Road 24
Lottes, Mrs. J. Otto, 1028 Winwood Drive 24
Lucido, Mrs. Joseph L., 6 Bellerive Acres 21
Macdonald, Mrs. John W., 4525 Lindell Blvd. 8
Macdonald, Mrs. William C., 63 Briarcliff 24
Machek, Mrs. Otakar, 16 Carrswold Road 5
Macnish, Mrs. James M., 229 Bompart St. 19
Maher, Mrs. Thomas F. Jr., 20 Willow Oak Lane 22
Martin, Mrs. Raymond T., 3468 Longfellow Blvd. 4
Mathae, Mrs. George H., 3167 S. Grand Blvd. 18
Mehan, Mrs. Donald J., 6522 Walsh St. 9
Meisenbach, Mrs. Albert E., 5475 Cabanne Ave. 12
Mendonsa, Mrs. Lawrence E., 2126 Blendon Place 17
Merenda, Mrs. Sam J., 45 Berry Road Park 22
Merklin, Mrs. Anton L., 5926 Crane Circle 9
Mestres, Mrs. Hugo M., 657 Lockwood Court 19
Meyerhardt, Mrs. Milton H., 36 Lake Forest 17

Mier, Mrs. Thomas M., 516 Overhill Drive 30
Montgomery, Mrs. Austin F., 8623 Eulalie Ave. 17
Morfit, Mrs. John C., 7627 Wydown Blvd. 5
Moskop, Mrs. Peter G., 3736 Dunnica Ave. 16
Mowrey, Mrs. William O., 7071 Lindell Blvd. 30
Muckerman, Mrs. Richard I. C., 63 Lake Forest 17
Mueller, Mrs. Robert, 683 W. Lockwood Ave. 19
Mueller, Mrs. Wilbur K., 1160 S. McKnight Road 17
Muether, Mrs. R. O., 19 Country Life Acres 31
Murphy, Mrs. James P., 27 Berkshire Blvd. 17
Neilson, Mrs. Arthur W., 6349 Alexander Drive 5
Nelson, Mrs. Kenneth R., 5670 Arsenal St. 39
Nemec, Mrs. Stanley S., 2870 S. Lindbergh Blvd. 31
Nester, Mrs. Charles A., 3921 Federer Place 16
Neun, Mrs. William F., 5862 Delor St. 9
Nolan, Mrs. Charles J., 18 Bellerive Acres 21
Northup, Mrs. Glen R., 7371 Princeton Ave. 30
Nye, Mrs. Robert S., 4910 S. Broadway 11
Obermeyer, Mrs. Charles G., 3957 Holly Hills Blvd. 16
O'Neal, Mrs. Lawrence W., 1 Nassau Drive 24
Oppenheimer, Mrs. Henry E., 10 Enfield Road 32
O'Reilly, Mrs. D. Elliott, 9054 Clayton Road 17
Orenstein, Mrs. Joseph M., 417 Jackson Ave. 30
O'Sullivan, Mrs. George A., 6181 Lindell Blvd. 12
Palazzo, Mrs. Frank A., 6903 Kingsbury Place 30
Parashak, Mrs. Paul M., 7344 Whitehaven Drive 23
Parsons, Mrs. E. H., 410 N. Newstead Ave. 8
Peden, Mrs. Joseph C. Jr., 51 Fair Oaks 24
Peeler, Mrs. J. O., 10000 Knoll Crest Court 36
Pernoud, Mrs. Flavius G. Jr., 841 Audubon Drive 5
Pernoud, Mrs. Michael F., 51 Frontenac Drive 31
Powers, Mrs. Pierce W., 4 Crestwood Drive 5
Presnell, Mrs. Cleitus A., 9839 Waterbury Drive 24
Pulliam, Mrs. Madison J., 7524 Cromwell St. 5
Pyne, Mrs. Herbert S., 5329 Mardel St. 9
Rainey, Mrs. Robert, 319 N. Taylor Ave. 8
Ramsey, Mrs. Robert H., 10 Lake Pembroke Drive 35
Reich, Mrs. Harry A., 5100 Tamm Ave. 9
Reilly, Mrs. Leo J., 6219 McPherson St. 30
Rendleman, Mrs. George F., 532 Midvale St. 30
Repetto, Mrs. Albert M., 66 Berry Road Park 22
Reuter, Mrs. Louis A., 2 Kingsbury Place 12
Riesmeyer, Mrs. L. T., 2612 S. Grand Blvd. 18
Riordan, Mrs. Laurence M., 410 N. Newstead Ave. 8
Ritter, Mrs. Hubert A., 6546 Walsh St. 9
Roy, Mrs. Joseph A., 9412 Acosta Drive 37
Royce, Mrs. Robert K., 410 W. Swan Ave. 19
Ruddell, Mrs. George W., 1333 Highmont St. 35
Ryan, Mrs. Robert E., 1 West Point Lane 31
Sanders, Mrs. Robert D., 4212 Flora Place 10
Sante, Mrs. LeRoy, 308 Orchard St. 19
Schaerer, Mrs. Jacques P., 11 Schultz Road 22
Schaper, Mrs. Ernest H., 2434 Bremerton Road 17
Scheer, Mrs. George E., 53 Berkshire Ave. 17
Schmidt, Mrs. Edwin H., 10240 Schuessler Road 28
Schmiemeier, Mrs. Roy H., 10220 Schuessler Road 28
Schweiss, Mrs. John F., 1414 Westwind Drive 31
Sciortino, Mrs. Gaspare, 1019 Laval St. 32
Scott, Mrs. Elwin P., 12718 Post Oak Road 31
Sexton, Mrs. Daniel L., 14 Crestwood Drive 5
Sexton, Mrs. Elmer, 2537 Town & Country Lane 31
Shaner, Mrs. John, 25 Bellerive Acres 21
Sherwin, Mrs. Charles F., Lonedell
Sherwin, Mrs. Charles S., 3971 Flora Place 10
Shuman, Mrs. Joseph S., 9349 Llewellyn Lane 32
Simon, Mrs. Jerome I., 12 Westridge Court 24
Smith, Mrs. Arthur A., 8604 W. Main St., Belleville, Ill.
Smith, Mrs. Benjamin F., 104 Aberdeen Place 5
Smith, Mrs. Garland F., 1115 Hampton Park Drive 17
Smith, Mrs. Herbert P., 9245 Sappington Road 26
Smith, Mrs. Hugh R., 8836 Rock Forest Drive 23
Smolik, Mrs. Edmund A., 59 Middlesex Drive 17
Spoeneman, Mrs. Walter H., 18 Biritz Court 37
Stanze, Mrs. F. J., 3924 S. Grand Ave. 18
Stephens, Mrs. LeRoy J., 218 Sylvester St. 19
Stindel, Mrs. Charles E., 341 Violet Lane 19
Stone, Mrs. Charles A., 111 Calverton Road 35
Strominger, Mrs. Donald B., 701 Yale Ave. 30
Stroud, Mrs. C. Malone, 6232 McPherson St. 30
Stryker, Mrs. William I., 9 Elm Ave. 22
Sudholt, Mrs. Alfred F. Jr., R. 1, Box 110 41
Sullivan, Mrs. Clement J., 6371 Waterman Ave. 30
Summers, Mrs. John B., 4730 Prague St. 9
Sweet, Mrs. Herbert C., 3 St. James Court 19
Thale, Mrs. Thomas, 3673 DeTonty St. 10
Thoma, Mrs. George E. Jr., 6453 Cecil Ave. 5
Thompson, Mrs. J. W., 92 Lake Forest 17
Thomson, Mrs. David A., 8015 Delmar Blvd. 30
Thym, Mrs. Henry P., 6 Ridgetop Drive 17
Tjoflat, Mrs. Oliver E., 252 Woodbourne Lane 5
Tremain, Mrs. Irl G., 4254 Flora Place 10
Tucker, Mrs. Eugene F., 1412 Dyblin Drive 26
Twedell, Mrs. Donald, 5341 Bermuda Road 21
Uhlemeyer, Mrs. Henry A. Sr., 641a Geoffry Lane 32
Vandover, Mrs. John T., 3 Grantwood Lane 23
Vest, Mrs. James C., 309 N. Sappington Road 22
Virant, Mrs. John A., 119 S. Spoede Road 41
Vitt, Mrs. Alvin E., 113 Frontenac Forest 31
Vogler, Mrs. Alfred T., 5021 Queens Ave. 15
Vohs, Mrs. Carl F., 7407 Cromwell Drive 5
Von Kaenel, Mrs. Joseph E., 551 Barnes Road 24
Wacker, Mrs. Leo L., 9115 Clydesdale Drive 26
Wagenbach, Mrs. Wm. F., 7348 Grandbury St. 23
Walker, Mrs. Francis S., 47 Middlesex Drive 17
Walters, Mrs. Harold E., 9 Huntleigh Woods 22
Wattenberg, Mrs. Carl A., 49 Kingsbury Place 12
Wegner, Mrs. Carl R., 7401 Wellington St. 30
Weinel, Mrs. Francis G., 333 Oakwood St. 19
Weinsberg, Mrs. Wm. C., 6220 Helm St. 9
Weir, Mrs. Don C., 625 Sherwood Drive 19
Welsh, Mrs. Laurence C., 103 W. Old Watson Road 19
Wennerman, Mrs. Sam F., 501 Warren St. 30
Werner, Mrs. William A., 6015 Childress Ave. 9
Wiegand, Mrs. H. C., 40 Overhills Drive 24
Wilcox, Mrs. C. V., 7022 Tholozan St. 9
Williams, Mrs. Kirkley R., 717 Radcliffe Ter. 30
Wilson, Mrs. Keith S., 9 Crestwood Drive 5
Wilucki, Mrs. Melvin R., 6455 Westway Road 9
Winter, Mrs. William O., 1030 Yale Ave. 17
Wirthlin, Mrs. Edward H., 4709 Vienna St. 9
Witt, Mrs. Clyde M., 11 Deer Creek Woods 24
Wood, Mrs. V. Visscher, 6368 Washington Ave. 30
Wotawa, Mrs. William J., 3804 Wilmington St. 16
Zahorsky, Mrs. Theodore S., 15 Arundel Place 5
Zeitler, Mrs. William T., 152 Timbercrest Road 22
Zink, Mrs. Oscar C., 9 The Orchards 32

ST. LOUIS COUNTY

Ahlvin, Mrs. Robert C., 7061 Waterman Ave., University City 30
Alex, Mrs. Morris, 18 Crosswinds, St. Louis 32
Bagby, Mrs. J. W., 7 Country Life Acres, St. Louis 31
Bailey, Mrs. William H., 9157 E. Milton Ave., Overland 14
Bauer, Mrs. Robert A., 11 Harneywold Drive, St. Louis 36
Bergmann, Mrs. John F., 818 Risdon Drive, Ferguson 35
Berndsen, Mrs. Gerard H., 12933 Topping Estates, Town & Country 31
Bernstein, Mrs. Aaron M., 7033 Cornell St., University City 30
Bernstorff, Mrs. Paul H., 16 Biritz St., St. Louis 37
Berwald, Mrs. Irvin I., 747 Old Bonhomme Road, St. Louis 32
Bolinske, Mrs. Robert E., 16 Chaminade St., St. Louis 41
Briscoe, Mrs. John R., 11053 Briarwood Ave., Ladue 24
Brother, Mrs. George M., 15 Frederick Lane, Glendale 22
Brown, Mrs. Eugene R., 7433 Gannon Ave., University City 30
Brown, Mrs. W. Sidney, 556 Bedford Ave., University City 30
Cacioppo, Mrs. Joseph E., 1809 New Jamestown Road, St. Louis 38
Carlson, Mrs. Arne E., 89 Pebblebrook Lane, Creve Coeur 41
Carr, Mrs. Thomas, 11461 Fair Acres Road, St. Louis
Catanzaro, Mrs. R. E., 24 Foxboro Road, Ladue 24
Chinsky, Mrs. Murray, 7200 Colgate Ave., University City 30
Coates, Mrs. Thomas, 39 Clermont Lane, St. Louis 24
Coldwater, Mrs. Kenneth, 1520 Ridgewood Drive, St. Louis 26
Costrino, Mrs. John J., 922 Jeanerette Drive, University City 30
Costrino, Mrs. Joseph A., R. 1, Box 419, Conway Road, St. Louis 41
Cowdry, Mrs. Edmund V., 30 Crestwood Drive, Clayton 5
Cruvant, Mrs. Bernard A., 529 Midvale Ave., University City 30
Davidson, Mrs. Morris, 128 Frontenac Forest, St. Louis 31
Davis, Mrs. Edgar W., 49 Woodcrest Drive, Ladue 24
Denny, Mrs. Robert B., 7827 Delmar Blvd., University City 30
Deyton, Mrs. John W., 659 Fairview Ave., Webster Groves 19
Diehr, Mrs. Maurice A., 28 Dromara Road, Ladue 24
Dill, Mrs. Foster A., 1551 Bellevue Ave., Richmond Heights 17
Doisy, Mrs. Robert A., 103 Edwin Ave., Glendale 22
Dowd, Mrs. James F., 30 Brentmoor Park, Clayton 5
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WASHINGTON

Mills Social Security Bill

Chairman Wilbur D. Mills (D., Ark.) of the House Ways and Means Committee has made clear that he still opposes the Kennedy Administration's legislation that would provide social security hospitalization for aged persons.

Mills said he did not intend to permit a social security bill he introduced to be used as a vehicle for Congressional action on any version of President Kennedy's disputed program.

The Mills bill would make the first $5,400 in annual earnings subject to the social security tax. It is $4,800 now. Kennedy's social security hospitalization bill would increase the tax base to $5,200.

The objective of the Mills bill is to strengthen the social security trust fund's financing by eliminating most of the long-range deficit now in prospect.

"My only intention in introducing the bill is to get the fund on an actuarially sound basis and to call attention to the fact that it is not actuarially sound now," Mills said.

"I assume everybody knows that I do not support the enactment of medicare under the social security program."

Another Democrat on the Ways and Means Committee, Rep. A. Sidney Herlong Jr. of Florida, also expressed strong opposition recently to the Kennedy legislation, known as the King-Anderson bill, or any other plan to finance health care through social security.

This position by Mills and Herlong made it unlikely that the Ways and Means Committee, where such legislation normally is acted upon first in Congress, would approve any health care plan financed through social security.

However, supporters of the King-Anderson bill could try to attach it as a rider to another social security bill on the Senate floor. This was the maneuver they attempted—unsuccessfully—last year.

Mental Health Bill

The Senate has approved the Kennedy Administration's $848.5 million mental health bill by a vote of 72 to 1. Its sponsors were confident of House passage also.

The American Medical Association had testified in support of the legislation when it was before the Senate Labor and Public Welfare Committee.

The bill would provide:

—A four year program, costing $230,000,000, under which federal grants would go to states for construction of public or other nonprofit community mental health centers. Funds would be allocated on the basis of population and need.

—An eight year program, costing $427,000,000, of federal grants to states for staffing of these mental health centers. Federal aid would gradually decrease and eventually would be cut off.

—A five year program, costing $30,000,000, of federal grants to public or other nonprofit institutions for construction of research centers and facilities for the mentally retarded.

—A five years program, costing $42,500,000 of federal grants for constructing college or university facilities to offer services to the mentally retarded and training for persons dealing with the retarded.

—A four year program, costing $67,500,000, of federal grants to states for constructing facilities for the mentally retarded. Funds would be allocated on the basis of population and need.

—A three year program, costing $45,500,000, for training of teachers of the mentally retarded, deaf, emotionally disturbed, crippled and other handicapped children.

—A three year program of research and demonstration projects in education of the handicapped.

Cancer and Virus

The National Cancer Institute says that research strongly suggests viruses cause cancers in humans.

Reviewing medical research in the last year before a House budget subcommittee, a National Institute of Health official said:

"The scientific evidence accumulated over a number of years, and particularly in the last half-dozen years, has demonstrated that viruses cause many forms of cancer in animals under experimental conditions. . . .

"The present state of knowledge leaves no doubt in our minds that viruses must be studied not only as a single possible cause of cancer in man, but in the whole context of carcinogenesis. The possible interaction of substances in the total environment—such as radiation, chemicals, and viruses—in giving rise to cancer in the population must be taken into account. Already there is laboratory evidence that this can occur in animals."

Dr. Kenneth M. Endicott, Director of the National Cancer Institute, told the subcommittee that "there is no doubt left in my mind that there is very strong association between excessive smoking and high incidence of cancer of the lung."

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THE LEGISLATURE

The Missouri Legislature completed its work at the hour of midnight, Sunday, June 30, 1963. A total of 1,154 bills were introduced, 803 in the House and 351 in the Senate. Of these, the legislature passed 137 house bills and 129 senate bills. The Governor has vetoed two house bills and three senate bills at the time of this report.

A total of 48 bills dealt with health care. The more important of these "affecting the practice of medicine" are reported. The various laws do not take effect until October 13, 1963, assuming that the Governor approves them.

Legislation Adopted

S. B. 140 amends the present Kerr-Mills law regarding the "needy" so that inpatient hospital care may be furnished to persons who are certified by competent medical authority as requiring hospitalization for serious illness or injury for which outpatient care will not suffice, provided, however, that such hospitalization shall not include those persons admitted to a hospital for elective surgery, diagnostic studies and chronic conditions. In addition, certain dental care and prescribed drugs and medicines may be provided.

The cost in state funds will be $4,322,320 for the biennium. The total cost, including federal funds, will amount to about $10,000,000.

S. B. 148 provides that the Division of Welfare shall establish a program for the "near needy." The program shall consist of (1) inpatient hospital care for serious illness or injury for which outpatient care will not suffice, and (2) post-hospitalization prescribed drugs or medicines for a period not to exceed 30 days after release from the hospital.

It is estimated that the cost in state funds will be $500,000 for the biennium, plus an equal amount of federal funds, a total cost of $1,000,000.

S. B. 142 provides that an Advisory Committee to the director of welfare regarding Kerr-Mills legislation shall consist of 13 members, including the Chairman of the Senate Committee on Public Health and Welfare and the Chairman of the House of Representatives Committee on Social Security, one member of the minority party from each committee, at least three physicians and others shall be persons interested in hospital administration, nursing home administration, nursing, dentistry and pharmacy.

S. B. 56 authorizes the establishment of Psychiatric Intensive Treatment Centers in St. Louis, Kansas City and Columbia (Dr. Ulett's program).

S. B. 109 adds a new section to the medical practice act, providing for the issuance of a temporary license for one year, without examination, to a person who is not a citizen of the United States but is legally authorized to practice under the laws of another state, territory or foreign country and who meets such other requirements as the board may prescribe.

S. B. 110 amends the medical practice act by increasing the original license fee from $25 to $50. The annual license fees are increased from $2.50 to $10.00. The board may place a licensee on probation, as well as suspend or revoke a license.

S. B. 108 provides that accountants, architects, attorneys, chiropodists, chiropractors, dentists, optometrists, doctors of medicine and osteopathy, and veterinarians may create a professional corporation. (The act is similar to those adopted in 19 states which were considered by the MSMA Committee on Corporate Practice.)

Legislation Not Adopted

H. B. 200 would have amended the chiropractic act. Chiropractic was defined to be the science and art of examining and adjusting by hand all of the movable articulations of the human body, especially the spinal column, for the correction of abnormalities and deformities of the human body. X-ray for diagnostic purposes was added. (Under present statutes, a chiropractor may palpate or adjust by hand the movable articulations of the spinal column only.) The chiropractic course would have been four years rather than three and would have included the following additional subjects: clinical diagnosis, x-ray and spinography, bacteriology and biochemistry. This bill was passed by the House but died in the Senate Committee on Economics.

H. B. 47 would have provided that physicians who rendered emergency care at the scene of an accident, should not be liable for any civil damages as a result of acts or omissions by such persons when no fee is charged for services rendered. This was passed by the House but died on the Final Passage Calendar in the Senate.

(Continued on page 757)

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Missouri

State Has Had Rapid Tax Climb

When the recently enacted 1 cent increase in the state sales-use tax goes into effect next October, Missourians will be paying $112 million a year in new and increased taxes imposed by the present and two preceding legislatures, according to the Missouri Public Expenditure Survey.

Computed on Missouri's four and a third million population, that means that Missourians will pay $25.93 per capita in added taxes enacted in 1959 and since.

The new and increased taxes that have been imposed, their effective dates and yields are:

The 1 cent increase in sales-use tax, effective in October 1963, is estimated to yield $65 million a year, beginning with the 1964 calendar year when the full effect of the increase is reflected in receipts of the state treasury.

The 2 cent increase in the state gasoline tax which was effective in October 1961 is estimated to yield $26 million a year.

The 2 cent a package increase in the cigarette tax which was effective in May 1961, is estimated to yield $11 million a year.

The 50 per cent increase in liquor and beer taxes effective in April 1961 is estimated to yield $3 million a year.

The yield from the compensating use tax, which was effective in August 1959, is not recorded separately from that of the sales tax; also there have been changes in the law, but it is estimated that it costs in higher taxes between $6 and $7 million a year under the 2 cent rate at which it was originally imposed.

Besides the increased taxes resulting in higher rates, more taxes are paid as a result of increases that have occurred in the various bases on which state taxes are levied. These include a higher level of personal and family expenditures because of greater consumption and rising prices, increased personal incomes and other factors.

It is estimated that the increased tax payments in the period of 1959-1964, on the growth of the tax bases, amounts to about $100 million a year, or $23.15 per capita. The increased taxes are estimated to raise this per capita by $25.93, or a total increase since 1959 of $49.08 per capita.

In 1959, state taxes amounted to $64.42 per capita and the increase of $49.08 brings the present per capita tax to $113.50 per capita.

Prior to the series of tax increases that began in 1959, increases in state taxes had been rather rare.

Four years earlier a state tax on cigarettes had been imposed for the first time. The rate was 2 cents a package. In 1952, to help finance the state's 10 year highway improvement program begun that year, the state gasoline tax was raised from 2 to 3 cents and commercial vehicle fees were increased. In 1947, a motor vehicle use tax was enacted. This is a relatively minor tax yielding less than $1 million annually. The last major tax increase preceding the gasoline tax increase of 1952 was the increase in the state sales tax rate from 1 to 2 per cent in 1937.

Infectious Disease in Missouri

Infectious disease reports for the month of June showed that there was one case of poliomyelitis as compared to three at the same time last year; 25 cases of meningococcal infection as compared to 11 last year; one case of diphtheria as compared to three last year; 1,821 cases of measles as compared to 752 last year; 173 cases of scarlet fever as compared to 284 last year; 327 cases of hepatitis with 383 at this time last year.

Kansas City showed an increase of whooping cough and measles with other diseases showing the same or fewer cases than last year. St. Louis showed a slight increase in meningococcal infections and also increase in scarlet fever and measles with other diseases being the same or lower than last year.

In Sprains, Strains and Muscle Spasm, 'Soma' Compound

numbs the pain...not the patient

A potent analgesic and
a superior muscle relaxant

1. A sprain or fracture is not a big clinical problem—but it does hurt. And if there is housework to do and kids to mind, the patient needs something to numb the pain.

2. A.P.C. compounds have limited usefulness; and the patient can buy them without your prescription. Unfortunately, most of them are too mild to be effective for sprains—and more potent products too often make the patient feel 'dopey'.

3. 'Soma' Compound is ideal in these cases. Since it contains both 'Soma' (carisoprodol) and acetophenetidin it is both a potent analgesic and a superior muscle relaxant; it also contains caffeine to offset any drowsiness *("numbs the pain... not the patient")*.

4. Why not try 'Soma' Compound? Dosage is 1 or 2 tablets q.i.d. For more severe pain, try 'Soma' Compound + Codeine. Dosage: 1 or 2 tablets q.i.d.

5. Hypersensitivity to carisoprodol may occur rarely. Codeine may produce addiction, nausea, vomiting, constipation or miosis.

Soma® Compound

carisoprodol 200 mg., acetophenetidin 160 mg., caffeine 32 mg.

Soma® Compound + Codeine

carisoprodol 200 mg., acetophenetidin 160 mg., caffeine 32 mg., codeine phosphate 16 mg. (Warning—may be habit forming.)

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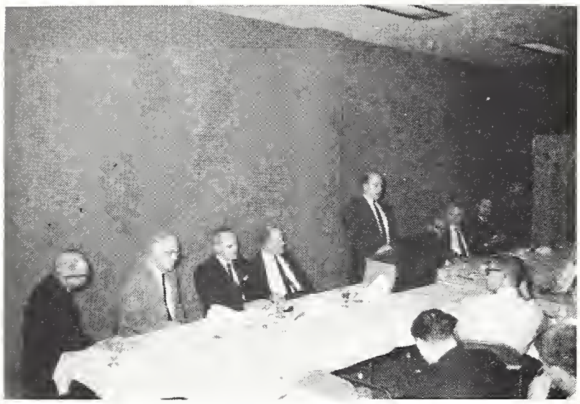
CSO-9193

C. G. STAUFFACHER, M.D., Secretary

Missouri Academy of General Practice

A luncheon program to bring information on various phases of medical practice, and opportunities in general practice to the juniors of the University of Missouri Medical School was held on May 16 at the Student Union Building at the University.

Fifty-five members of the junior class were present to participate in this informative session.



Dr. Campbell presided at the luncheon.

The luncheon was sponsored jointly by the Public and Professional Relations Committee of the Missouri Academy of General Practice and the Committee on Rural Medical Service of the Missouri State Medical Association. This is the third year for this joint project, the previous two years having been concerned with the senior medical students. Following lunch Dr. Wilson of the medical school made a few introductory remarks expressing the appreciation of the medical school for this project and then turned the meeting over to Dr. Edward Campbell, Cape Girardeau, Chairman of the Public and Professional Relations Committee of the MAGP, who served as Master of Ceremonies.

An interested audience consisted of 55 junior medical students.

President Gunn outlined Academy activities.

After making a number of introductions, Dr. Campbell presented the first speaker, Dr. B. J. Bass, Salem, who discussed solo practice. The next speaker was Dr. Charles Worley, Sweet Springs, who spoke on partnership practice. The third speaker was A. E. Spelman, Smithville, who discussed group practice. All three speakers are members of the Academy and are, or have been, members of the State Medical Association

Students remained after the luncheon for informal discussion.

(Continued on page 788)

For your elderly arthritic patients

AN
EFFECTIVE
GERIATRIC
ANTIARTHRITIC
WITH DISTINCTIVE
SAFETY FACTORS

safely
indicated
–even when **OSTEOPOROSIS** is present

PABALATE-SF, which has been found "superior to aspirin in the treatment of chronic rheumatic disorders,"[1] possesses distinctive **Safety Factors** for elderly arthritics, even when osteoporosis is present: (1) its potassium salts cannot contribute to sodium retention; (2) its enteric coating assures gastric tolerance; and (3) it does not produce the serious reactions often noted during therapy with steroids or pyrazolone derivatives.

In each persian-rose enteric-coated tablet: potassium salicylate, 0.3 Gm.; potassium para-aminobenzoate, 0.3 Gm.; ascorbic acid, 50 mg.

1. Ford, R. A., and Blanchard, K. P.: J.-Lancet 78:185, 1958.

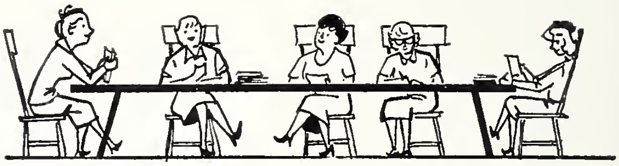
Precaution: Occasionally, mild salicylism may occur, but this responds readily to dosage adjustment. In the presence of severe renal impairment, care should be taken to avoid accumulation of salicylate and PABA. Supply: Bottles of 100 and 500 enteric-coated tablets.

Pabalate®-SF Robins

(the new, convenient way to prescribe Pabalate-Sodium Free)

A. H. ROBINS COMPANY, INC., RICHMOND, VIRGINIA

Woman's Auxiliary



These past two months have been busy ones and will be remembered for two outstanding trips. First, in May, Bitsy Calkins and I had a most enjoyable visit in Chicago as the guests of the Illinois Auxiliary. Presidents and presidents-elect from Indiana, Michigan, Wisconsin and the president of Kentucky attended. Eunice Roller, the capable and energetic president of the Illinois Auxiliary and all of her members really rolled out the red carpet for their guests. It was a most rewarding experience and an idea that I think we should renew at our state conventions. It gave us an opportunity to get to know these officers of neighboring states, to compare notes on our problems and ideas in a small group, and to listen to the county reports of another state.

Mrs. L. S. Crispell

Last week we attended the National Convention in Atlantic City. Mrs. William G. Thuss, the National president presided at the meetings and, indeed, she is a delightful and charming person. Our delegates, Esther Bauman, Betty Hall, Maxine Miles, Janet Neilsen and Anne Whitman joined us for all sessions.

I am always particularly impressed by the caliber of the speakers at these meetings and only wish that all Auxiliary members could be there to hear them. Sunday night, we heard His Excellency, Bishop Fulton J. Sheen, Edward Rynearson, M.D., of the Mayo Clinic, and the Rev. Dr. Paul B. McCleave, all speaking in behalf of the new AMA Department of Medicine and Religion. This was truly an inspiring program. Other speakers included William B. Walsh, M.D., President of the People to People Health Foundation; Mrs. Haven Smith, Chairman of the Women's Activities of the American Farm Bureau; Mrs. Muriel Aronson, vice president of a public relations firm; Mr. Robert Riley, Editor of the *AMA News;* Representatives Bruce Alger (R-Texas), and A. S. Herlong Jr. (D-Florida), members of the House Ways and Means Committee; and Mr. Louis F. Lucas, Executive Director of the National Rifle Association, who spoke for Project HOPE, Rural Health, Public Relations, Publicity, Legislation, AMPAC and Safety. Auxiliary committee chairmen presented reports on AMA-ERF, Civil Defense, and Health Careers. Some new ideas for programs were presented, especially for suicide prevention under mental health and in gun safety. Do read the detailed reports in the *National Bulletin* later.

It was my privilege to read the report of Venus Schattyn's year. It is impossible to do justice to our accomplishments under her leadership in two minutes and it seems a shame that Venus was not with us to take proper credit for her achievements.

A feature of the Tuesday luncheon was the presentation of a commendation to Donna Reed for her television portrayal of a doctor's wife. The guest speaker was George M. Fister, M.D., retiring president of the AMA, who urged us to "tell medicine's story and tell the truth" and to let the public know that we are expanding our programs, always alert to changing times.

On Wednesday morning, the new President of the AMA, Edward R. Annis, M.D., spoke to the meeting on "Operation Hometown" which is the campaign against the King-Anderson Bill. Following this, Mrs. C. Rodney Stoltz of South Dakota, was installed as president of the Auxiliary. In next month's article, I will discuss her theme "Serve and Communicate" and how it will apply to our year's activities.

Missouri is proud that Betty Sutter was re-elected and installed as North Central Regional vice president. We are hoping that this will lead to even further recognition of her capabilities on the national level. National Civil Defense Chairman will be Ruth Kelling's title and those who work with her will respect her talents as we do.

Getting to know Bitsy Calkins on these trips is a delightful experience. Her understanding, friendliness, thoughtfulness and her calm approach are qualities that will be appreciated by all in the busy times ahead. We are indeed fortunate.

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ROBERT B. DODD, M.D.; H. F. SIDNEY KEISTER, M.D.,
and DORAN D. MAUPIN, M.D., *St. Louis*

Clinical Anesthesia at Barnes Hospital 1956-1961

The experience in clinical anesthesia at Barnes Hospital for a five year period, 1956-1961 is presented with comments. The teaching and investigational activities of the Division of Anesthesiology at the Washington University School of Medicine and Barnes Hospital are not discussed.

Dr. Dodd is Henry E. Mallinckrodt Professor and Head of the Division of Anesthesiology at Washington University School of Medicine and Barnes Hospital. Dr. Maupin is Instructor of Anesthesiology at the two institutions. Dr. Keister is currently a Fellow in Anesthesia at the University of Colorado Medical Center.

The present Division of Anesthesiology in the Department of Surgery of Washington University School of Medicine and Barnes Hospital was established in 1956. It consists of staff anesthesiologists and residents in training, both groups holding faculty appointments in the School of Medicine; and staff nurse anesthetists and graduate nurses in anesthesia training. This report concerns the clinical activities of the division during the first five years of its existence with supplementary information from the following year. The purpose of this paper is to inform the medical community of Missouri about the current status of anesthesia as practiced in Barnes Hospital since it is understood that there is some interest in the topic. It is not intended to reflect the practice of anesthesia in university hospitals generally, nor as a guide to the practice of anesthesia.

Method

Since June of 1956, the Division of Anesthesiology has used McBee Key-Sort records. Monthly compilation of the clinical activities of the division have been made which form, with other material, the basis for the annual report of the Division of Anesthesiology. Since statistics had not been kept on the use of individual anesthetic agents, the records for the five year period (September 1, 1956, through June 30, 1961) were sorted to gain this information. Cards for July and August of 1956 had been destroyed. In addition, a four month period (March through June of 1962) was studied for clues to the interpretation of this mass of data.

Where it appeared warranted, 1956-1957 totals were compared to 1960-1961 totals using the chi-square formula.

Results and Discussion

Anesthetic Procedures.—During the five year period covered by this report, the use of conduction anesthesia diminished by one half (table 1). Conduction anesthesia is nerve block anesthesia, including spinal, peridural and specific nerve and field blocks. The increase in use of general anesthesia could be interpreted as meaning that the surgeons have developed an increasing con-

TABLE 1

ANESTHETIC PROCEDURES

Anesthetic Procedures	*1956-57 Per Cent*	*1957-58 Per Cent*	*1958-59 Per Cent*	*1959-60 Per Cent*	*1960-61 Per Cent*
General	89.6	89.1	90.3	93.0	93.4
Endotracheal†	29.8	28.4	41.4	42.1	43.1
Conduction	10.3	10.8	9.7	7.1	5.7
Spinal*	3.9	3.0	3.1	2.3	2.1
Caudal & Epidural	1.5	1.7	1.8	1.6	1.4
Block*	4.9	6.1	4.8	3.2	2.2

* Decrease 1956-57 vs. 1960-61, $P = < 0.001$.
† Per cent of total intravenous and inhalation, "general," techniques.

TABLE 2

USE OF THIOPENTAL PER RECTUM IN CHILDREN UNDER FIVE YEARS OF AGE

Year	*Total Uses*	*Total Children*	*Per Cent*
1956-57	164	1,783	9.2
1957-58	186	2,184	8.5
1958-59	308	2,161	14.2
1959-60	356	2,052	17.3
1960-61	374	2,038	18.3

fidence in the use of general anesthesia for their poor risk patients. This may be true to some extent; but a more logical explanation is that as our physician anesthesia staff has become busier, they have had less time to devote to the use of block technics which may be quite time consuming. Confirmatory to the latter opinion is the finding that the use of block anesthesia decreased steadily after June 1959. This date is coincident with the departure from our staff of one of our anesthesiologists who used conduction technics whenever feasible.

It will be noted that the use of spinal anesthesia and block anesthesia have fallen off significantly, whereas the use of caudal and epidural technics have remained relatively constant. The decrease in the use of spinal anesthesia, which has never been generally popular in this institution, probably reflects the increasing use of muscle relaxants to provide comparable surgical relaxation. The increasing use of endotracheal technics is, undoubtedly, related to the increased use of muscle relaxants and assisted or controlled respiration.

The use of the rectal route to induce anesthesia in children under 5 years of age has doubled over the five year period (table 2). Since the institution does not have anesthesia induction rooms and the children may have to wait in the operating room corridor for varying lengths of time, rectal thiopental (Pentothal®) has frequently been used in suitable children who are old enough to be frightened but too young to be reasoned with. Small doses of thiopental, 12.5 mg./lb., are used.

Anesthetic Agents.—Just prior to the five year period under study, halothane (Fluothane®) was introduced into clinical anesthesia and was first used in Barnes Hospital in December 1957. This potent, non-explosive, halogenated hydrocarbon was used sparingly at first while we familiarized ourselves with its actions. The agent then began to increase rapidly in popularity until its use was curtailed for educational and economic reasons during the first six months of 1961 (fig. 1). A less restrictive policy toward use of the agent was adopted during the year 1961-1962, and it can be seen that the use of this agent is again on the increase.

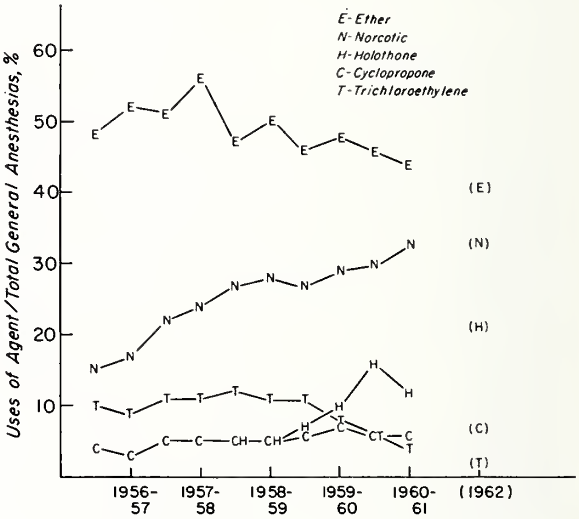

Fig. 1. Percentages by years of anesthetic agents.

Over the five year period, there have been significant decreases in the use of ether and trichloroethylene and significant increases in the use of halothane, barbiturate-narcotic-nitrous oxide combinations and cyclopropane, $P < 0.001$. The increasing use of x-ray, electronic instrumentation and other potential explosion hazards during anesthesia has probably contributed to the increased use of halothane and multiple drug technics. This does not account for the decrease in use of trichloroethylene, a non-explosive agent, nor the increase in use of cyclopropane, an explosive one. The decrease in the former is, undoubtedly, a direct result of the introduction of halothane which has become a more convenient agent to use. The increased use of cyclopropane is apparently a reflection of increased use of physician anesthesia in this hospital (table 3). It will be seen that physicians at this institution use halothane about twice as often as do the nurses and, in fact, now use halothane as frequently as they do ether. These figures are probably skewed toward halothane because of the almost exclusive use of physician anesthesia for chest surgery. Halothane has become our agent of choice for chest procedures because the surgeons employ electrocautery. Physicians here use cyclopropane about three times more frequently than do the nurses.

TABLE 3

INCIDENCE OF USE OF AGENTS DURING GENERAL ANESTHESIA MARCH THROUGH JUNE 1962

Agent	*All Anes.*		*R.N.*		*M.D.*	
		USE PER CENT*		USE PER CENT*		USE PER CENT*
Ether	2,182	40.5	1,763	44.0	419	30.3
Trichloroethylene	94	1.7	89	2.2	5	0.4
Cyclopropane	403	7.4	184	4.6	219	15.8
Narcotic	1,795	33.3	1,440	35.9	355	25.6
Halothane	1,091	21.3	664	16.5	427	30.8

* Use/total cases, several agents were occasionally used on the same case.

The slopes in figure 1 were constructed from total performance of the Division of Anesthesiology in the Hospital and more closely reflect the practices of the nurse segment of the division since it is the larger one. If, as will be discussed later, the use of physician anesthesia continues to increase at this institution, the trend would appear toward the use of volatile agents that are not metabolized by the body. The use of narcotic-fortified anesthesia will decrease. The use of ether will fall toward its present use by physicians and the use of halothane and cyclopropane will increase. Trichloroethylene, which has been and still can be a useful agent, will probably die a slow death.

Anesthetist-Case Breakdown.—The use of physician anesthesia has doubled over the five year period (table 4). Less than one-eighth of the anesthesias were administered by physician personnel during the first year while during the fifth year over one-fourth were. The category, all M.D., includes those anesthesias administered by staff anesthesiologists, anesthesiology residents, surgical interns and assistant residents on anesthesia rotation and medical students.

TABLE 4

ANESTHETIST-CASE BREAKDOWN

Anesthetist-Case Breakdown	*1956-57 Per Cent*	*1957-58 Per Cent*	*1958-59 Per Cent*	*1959-60 Per Cent*	*1960-61 Per Cent*
Staff M.D.	1.7	3.1	4.2	4.8	4.4
Staff R.N.	3.0	2.5	4.3	1.7	1.0
Resident	5.2	7.1	16.8	14.2	19.0
Student R.N.	84.5	82.6	71.6	74.9	73.4
Rotating House Staff	5.0	3.5	2.4	3.8	2.0
All M.D.	11.9	13.7	23.4	22.8	25.4
All R.N.	87.5	85.1	75.9	76.6	74.4

The Division of Anesthesiology personnel administer anesthesia in three separate areas. About 70 per cent of the anesthesias are administered in the Barnes surgical suite, including diagnostic and therapeutic procedures performed in the adjacent radiological institute; about 19 per cent are administered in McMillan Hospital, where ophthalmologic and otolaryngologic procedures are performed; and 11 per cent are given in the obstetrical suite in Maternity Hospital. Less than 1 per cent of the total anesthesias given by the division's personnel are administered outside the Barnes group of hospitals. During the four months surveyed in 1962, the physician staff, excluding rotating house staff and medical students, comprised 23 per cent of the division's professional personnel. The physician segment administered 27 per cent of the total number of anesthesias given in the Barnes Group. Of these anesthesias 77 per cent (38 per cent of the total) were given in the Barnes surgical suite, 21 per cent (23 per cent of the total) were given in the McMillan surgical suite and 2 per cent (8 per cent of the total) were given in the delivery rooms of Maternity Hospital.

Patient Age Groups.—Over this short five year span, the increase in our surgical population of patients more than 50 years of age is apparently a real one (table 5). In 1956-1957, a little more than 25 per cent of our patients were in the "over 50" group; now, nearly 28 per cent are. We do not know whether this is true in other hospitals around the country, i.e., whether the general aging of the population can be reflected in

TABLE 5

PATIENT AGE GROUPS

Patient Age Groups	*1956-57 Per Cent*	*1957-58 Per Cent*	*1958-59 Per Cent*	*1959-60 Per Cent*	*1960-61 Per Cent*
Less Than 1 Year	2.4	2.7	2.9	2.9	2.7
1- 5 Years	8.7	9.9	9.8	9.6	9.9
5-15 Years	15.2	15.8	15.5	15.6	16.9
15-30 Years	21.8	20.4	18.5	17.6	17.2
30-50 Years	26.5	26.2	26.2	26.4	26.0
50-70 Years*	19.3	19.4	20.4	21.4	21.2
Over 70 Years*	6.1	5.5	6.6	6.4	6.7

*Increase in patients over 50 years of age 1956 to 1961, $P < 0.001$.

a significant fashion over such a short period of time. It may mean only that this hospital, with its manifold diagnostic facilities and excellent attending staff and house staff, is attracting an outsize proportion of the elderly poor-risk patients.

Duration of Anesthesia.—The number of cases lasting over two hours has increased (table 6). The five year period saw the development and use of the extracorporeal pump-oxygenator for support of the surgical attack on congenital and acquired heart disease; and the development of other surgical approaches to the treatment of vascular disease, neurologic disease and malignancy. Our institution is not a prime example of Parkinson's Law as applied to anesthesia, but it does participate. Here, too, as the anesthesiologist "figures out ways by which he can keep patients alive longer, surgeons figure out longer and more exotic procedures to fill the time."[1]

TABLE 6

DURATION OF ANESTHESIA

Duration of Anesthesia	*1956-57 Per Cent*	*1957-58 Per Cent*	*1958-59 Per Cent*	*1959-60 Per Cent*	*1960-61 Per Cent*
Less Than 30 Minutes	22.3	23.2	20.2	18.4	19.4
30 Minutes to 2 Hours	56.5	54.6	56.1	57.0	57.4
2 Hours to 4 Hours*	16.4	16.7	17.4	18.8	18.4
Over 4 Hours*	4.8	5.4	5.6	5.7	4.8

*Increase in cases lasting longer than the 2 hours, 1956 vs. 1961, $P < 0.001$.

Mortality Data.—The charts of all patients who died during anesthesia or operation or at anytime in the hospital thereafter, have been reviewed on a weekly basis since the formation of the present division. During this five year period there were a total of 124,191 anesthesias administered. Charts on 1,124 patients who died during or following anesthesia and surgery were reviewed and of this number, anesthesia was felt to be implicated in 83 of the deaths. By implicated, we mean that if some phase of the anesthetic management had been changed, the patient might have had a better chance for survival. Anesthesia might be the principal factor, or one of many contributing factors, in the demise of the patient. In about a third of these 83 deaths, anesthesia was considered to be the primary cause of the patient's death but the mortality rate is figured on the larger number. During this five year period the mortality due to anesthesia has been 0.66 per 1,000 anesthesias administered. This is comparable to the anesthesia death rate established by Beecher and Todd in a study conducted in ten university hospitals. The death rate that they found was 0.64 per 1,000 anesthesias administered.[2] The times at which the deaths occurred are shown in table 7.

TABLE 7

DEATHS IN WHICH ANESTHESIA WAS IMPLICATED

Prior to Operation	5
During Operation	25
Within 24 Hours	34
24 to 48 Hours	8
Within 1 Week	6
After 1 Week	5
	83

No attempt has been made to find whether one agent or technic can be implicated more frequently than another. In the report cited, the only agent that the authors found that seemed to be associated with a higher mortality was the use of a muscle relaxant. This view has been attacked on a number of grounds and our data are not sophisticated enough to provide good evidence for or against the use of muscle relaxants. The clinical impression at this institution as well as in most around the country, is that the judicious use of muscle relaxants provides better operating conditions for the surgeon, decreases postoperative morbidity and probably, as an isolated factor, has little effect on the mortality rate due to anesthesia.

Beecher and Todd found that the anesthesia death rate was disproportionately high during the first decade of life. Twenty per cent of the anesthesia deaths reported occurred in this group which made up 9 per cent of their surgical population. After that, they found that the anesthesia death percentage remained below the hospital age distribution until the sixth decade when it began to creep ahead. Our statistics as to age are not kept by decades but rather by age groups according to their usual response to anesthesia. All of the deaths in which anesthesia was implicated here in the first two decades of life were in the pediatric age group, that is less than 15 years of age. Table 8 gives the distribution of surgical population and "anesthesia deaths."

TABLE 8

AGE GROUPS

Age Groups	*Population* PER CENT	*Deaths* PER CENT
Less Than 1 Year	3	5
1- 5 Years	10	5
5-15 Years	16	6
15-30 Years	19	2
30-50 Years	26	25
50-70 Years	20	35
Over 70 Years	6	22

Starting with the year 1957-1958, the deaths associated with anesthesia were categorized according to the phase of anesthesia involved, as suggested by Phillips and Frazier.[3] We endeavor to ascertain what portion of the thinking about or handling of the anesthesia could have been changed to produce a better outcome. As can be seen in table 9, improper management during anesthesia was the most frequently chosen phase, comprising more than 50 per cent of the 68 cases analyzed during the four year period. We were not, however, always able to pinpoint an act, or lack of action, in this category which should have been changed.

TABLE 9

PHASE OF ANESTHESIA INVOLVED

Preparation and Premedication	2
Choice of Agent or Method	20
Improper Management During Anesthesia	37
Improper Resuscitation	6
Postoperative Management or Medication	3
	68

SUMMARY

A pentad of experience in clinical anesthesia at Barnes Hospital has been reviewed. It has been found that the use of general anesthesia has increased at the expense of spinal and regional nerve block technics. The introduction of a new anesthetic agent, halothane, has profoundly affected the choice of anesthetic agents used. Increases have been noted in the number of elderly patients, in the duration of anesthesia for surgical procedures and in the number of anesthesias administered by physician personnel. Deaths associated with anesthesia appear to occur at about the same rate as they do at other large teaching hospitals.

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LEGISLATION

(Continued from page 744)

S. B. 264 would have amended the statute on privileged communications by physicians. The act provided that in such instances in which a civil action had been commenced for bodily injuries or wrongful death a physician and surgeon's testimony should not be privileged in any action brought by the patient, his personal representative, his survivor or the executor of his estate, wherein the patient's physical or mental condition was an issue. The bill was stricken from the Senate Perfection Calendar.

H. B. 499 would have established a board to examine and license physical therapists. The legislation was similar to the bill which failed to pass in 1961 except that the board was separate from and not under supervision of the Healing Arts Board. The bill was passed by the House but died on the Senate Final Passage Calendar.

NATHAN C. GALLOWAY, M.D., *and*
R. E. STUFFLEBAM, M.D., *Columbia*

The Use of Extracorporeal Dialysis (Artificial Kidney)

USE OF EXTRACORPOREAL hemodialysis had its inception in 1914. At that time, a dialyzer was described which could remove salicylates from the dog faster than renal excretion.[1] It was not until 1946 when Kolff and later Merrill[2] demonstrated its efficiency when used for therapy of acute renal failure. One major handicap has been to secure vessels for attachment to the dialyzer. Scribner and his colleagues[3] adroitly conceived a plastic artificial arteriovenous fistula (fig. 1) which has made frequent periodic dialysis possible. With these advances, there has been an ever broadening area in which extracorporeal hemodialysis has therapeutic application.

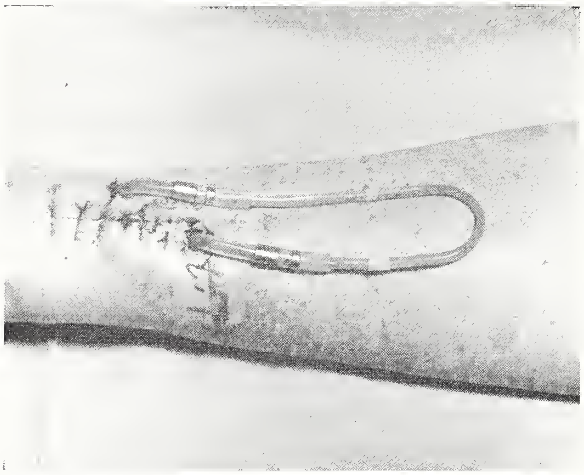

Fig. 1. Scribner fistula for chronic vessel cannulation. The U tube is removed and gives ready access to the radial artery and cephalic vein.

The general areas of applicability are: (1) Acute reversible renal failure, (2) acute or chronic exogenous poisoning, (3) long term programs in the care of chronic renal insufficiency, (4) removal of edema and correction of electrolyte problems in severe congestive heart failure, (5) hepatic coma, and (6) investigation of the uremic syndrome to delineate better the causative factors.

Experience with eight selected patients treated by extracorporeal hemodialysis is presented with the specific problems of management of the patients; also extracorporeal hemodialysis and peritoneal dialysis are compared briefly.

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It is obvious that the best results will be attained in groups (1) and (2). These patients have reversible disease and need to be supported until diuresis occurs or an adequate amount of the noxious substance is removed. It is the purpose of this report to present pertinent clinical material concerning the use of extracorporeal hemodialysis, groups (1), (2) and (3).

GROUP 1

Acute renal failure may be defined as the abrupt onset of "an advanced quantitative reduction in renal function to a point where the kidneys are unable to maintain chemical homeostasis in the organism."[4] Acute reversible renal failure may be caused by a broad spectrum of diseases that has anuria or oliguria as its common trait.

Many patients with acute renal failure are able to survive with meticulous attention to fluid restriction, correction of electrolyte abnormalities, therapy of infection and supportive care. However, there are two groups of patients requiring extracorporeal hemodialysis for survival. There are: (1) patients with prolonged anuria, and (2) patients with marked tissue destruction. The following case reports will emphasize the problems in these patients.

Case 1. J. H. (UMMC 03-68-11). This 30 year old Negro male was admitted on January 15, 1962, shortly after an auto accident. Suspected intra-abdominal hemorrhage was confirmed at laparotomy when a ruptured spleen and a large stellate fracture of the liver was found. Apparent hemostasis was obtained and the abdomen was closed. Postoperatively, the patient was noted to be oliguric in spite of adequate fluid replacement. Trauma, fever and acute renal failure were felt to be responsible for hyperkalemia and rapidly rising blood urea nitrogen. Hyperkalemia was effectively controlled with gastric lavage, hypertonic glucose and insulin, sodium lactate and ion exchange resins. However, the onset of seizures necessitated extracorporeal hemodialysis on the fifth hospital day. (See figure 2 for laboratory data.) The symptomatic improvement was dramatic.

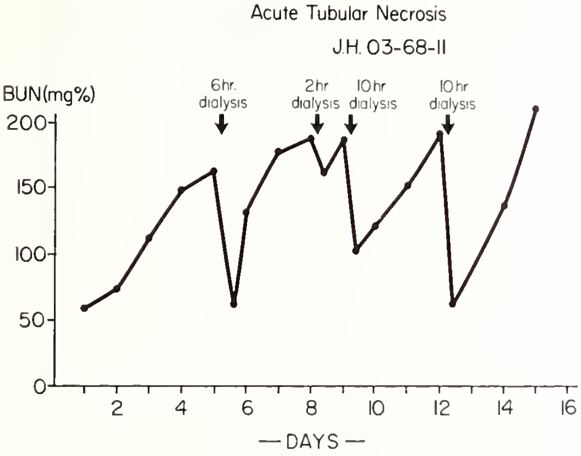

Fig. 2. Daily blood urea nitrogen in Case 1. Note the rapid rise in values caused by tissue necrosis and gastrointestinal bleeding.

After dialysis, a Teflon arteriovenous[3] shunt was inserted. Later that day, the patient had a massive gastrointestinal hemorrhage requiring multiple transfusion and other supportive measures. Second extracorporeal dialysis was required on the eighth hospital day but was terminated after two hours because of another episode of melena.

Because heparinization was twice accompanied by gastrointestinal hemorrhage, it was decided that future dialysis would be done by regional anticoagulation utilizing 40 per cent tri sodium citrate.[5] Dialysis was done on the ninth and twelfth days by this method and each time effected symptomatic improvement. On the fourteenth hospital day, the patient had a cardiac arrest and was successfully resuscitated. He died suddenly on the sixteenth hospital day.

Comment.—The tissue necrosis associated with hepatic injury, skeletal fractures and the surgical procedure resulted in a rapid progression of the uremic syndrome. His clinical condition and the rapid accumulation of metabolic end products necessitated dialysis every third day. The presence of active gastrointestinal bleeding and a suspected sub-diaphragmatic hematoma made it advisable to utilize regional anticoagulation. There was no evidence of hypocalcemia or the cardiovascular effects of citrate intoxication.[6]

Case 2. N. E. (UMMC 02-75-25). This 34 year old gravida V, para V, white female was admitted on the first postpartum day. Following an uneventful prenatal course, the patient was admitted to her local hospital in labor. Blood pressure of 200/60 and 3+ proteinuria were noted. A viable fetus was delivered. Anti-hypertensive medication reduced the blood pressure to 130/80. She had a major motor seizure and was found to be jaundiced four hours postpartum. Oliguria became apparent that day and she was transferred to the University of Missouri Medical Center for observation.

Data confirmed the presence of hepatocellular disease and anuria which were felt to be secondary to eclampsia. Hydrocortisone therapy was initiated and the previously abnormal liver function rapidly returned to normal. She began to manifest cerebral symptoms of uremia and on the seventh hospital day, extracorporeal dialysis was performed. Marked clinical improvement resulted. Although the patient was felt to be entering the diuretic phase by the twelfth hospital day, a second extracorporeal dialysis was necessitated by the return of confusion and neuromuscular excitability. The diuretic phase was complicated by a Pseudomonas septicemia which was treated with kanamycin, the only antibiotic to which the organism was sensitive.

During convalescence, the renal function returned to normal. The only residual of the patient's illness is a hearing deficit attributed to kanamycin therapy.

Comment.—Deaths from hyperkalemia and uremia during acute renal failure have been decreased with early dialysis but there is still a considerable mortality rate as a result of infection. The presence of a Pseudomonas septicemia in the diuretic phase of this patient's illness illustrates that infection is a common cause of mortality in these patients. Elevation of temperature, in the absence of infection, is common during the diuretic phase of acute tubular necrosis.[7] The demonstration of Pseudomonas in two blood cultures in this patient required therapy. Kanamycin was chosen, in spite of its ototoxic properties, because of sensitivity studies. This patient developed deafness at a low dose of kanamycin. This case emphasizes the necessity of choosing drugs which are not primarily excreted in the urine.[8]

Case 3. E. C. (UMMC 02-77-47). This 17 year old Negro female was admitted to the University of Missouri Medical Center on January 12, 1961, because of acute renal failure. She was in good health until January 7, 1961, when she was hospitalized for the sudden onset of abdominal pain. At laparotomy, she was found to have an intussusception caused by a Meckel's diverticulum. No blood was required during the operation. On the day of surgery and the first postoperative day, she had episodes of hypotension. Oliguria was present on the second postoperative day.

Extracorporeal dialysis was performed on the second hospital day because of acute uremia, hyperkalemia and overhydration. There was temporary symptomatic improvement; however, right sided focal seizures were noted on the fourth hospital day. A Teflon arteriovenous shunt was established and the patient was again dialyzed on the sixth hospital day because of continued seizures, which disappeared after dialysis. On the thirteenth hospital day, the patient entered the diuretic phase, however, the blood urea nitrogen continued to rise. A protodiastolic gallop rhythm and focal seizures were again noted on the fourteenth hospital day and when generalized seizures recurred the following day, a third dialysis was performed. Renal function improved progressively and the patient was discharged on the 38th hospital day.

Comment.—This patient was overhydrated and markedly "uremic" when first seen. There was adequate removal of water and chemical improvement with the initial dialysis. She convulsed on the second post-dialysis day. These seizures were abated with dialysis. After one further dialysis, she made an uneventful recovery. Electroencephalogram and neurologic evaluation after one year were normal.

GROUP 2—EXOGENOUS POISONS

The substances listed in table 1 satisfy criteria for dialysable poisons.[9] These criteria are:

1. Molecular size is small enough to diffuse through cellophane (i.e., reasonable dialysance).
2. The distribution of the substance in the body is such that it is available for dialysis from plasma (i.e., not protein bound).
3. There is a relationship between toxicity, amount ingested and the duration of the body's exposure.
4. Dialysis contributes heavily to rapid removal of the noxious substances.

TABLE 1

DIALYZABLE POISONS

Phenobarbital	Strontrium
Barbital	Radio calcium
Secobarbital	Tritium[10]
Talbutal	Potassium thiocyanate
Amobarbital	Ammonia
Pentobarbital	Sodium chlorate
Doriden	Antifreeze[11]
Bromide	Ethyl alcohol
Acetylsalicylate	Methyl alcohol[12]
Methyl salicylate	Bichloride of mercury
Dilantin	Iron[13]

These substances have been shown to be effectively removed by dialysis (modified from Schreiner, G. E.[9]).

Case 4. D. H. (UMMC 03-29-14). This 21 year old white female was admitted to the Psychiatry Service on January 16, 1962, shortly after ingesting 25 grams of glutethimide (Doriden) in a suicide attempt. Gastric lavage returned a portion of the tablets. At that time, her vital signs were stable and she responded to vocal stimuli. Her level of consciousness then was noted to vary but the general trend was toward coma. There were several episodes of hypotension. She was seen by the Medical Service approximately 16 hours after admission and at that time was areflexic with fixed dilated pupils.

She was dialyzed immediately. After three and one half hours of dialysis, she was conscious, uncooperative, manic and complained of diplopia. Nystagmus on lateral gaze was noted. Improvement continued and after five hours, the dialysis was discontinued.

Comment.—This woman ingested two and one half times the human LD_{50} of Doriden. Her course of alternating pupil size, variations in blood pressure and changes from absolute unresponsiveness to slight responsiveness to pain were typical of severe glutethimide intoxication.[14] One of the most serious problems associated with glutethimide overdose is sudden apnea not preceded by slowing of respiration. It is worth emphasizing that early aggressive gastric lavage did not remove all the material from the body. There was a prompt response to dialysis which of course shortens intensive nursing care and hospital stay.

Case 5. H. G. (UMMC 01-07-13). This 37 year old white male executive was admitted to his local hospital on January 20, 1961, approximately three hours after ingesting 3.6 grams of talbutal (Lotusate), a barbituate of intermediate duration. Vigorous supportive measures were required when he manifested vasomotor collapse, apnea and coma. It became apparent that usual supportive care would not suffice and approximately 20 hours after ingestion of the drug, the patient was transferred to the University of Missouri Medical Center. Extracorporeal dialysis was immediately performed and effected a dramatic improvement. Serum barbiturate was 16.8 mg. per cent prior to dialysis and 1.73 mg. per cent after six hours of dialysis. No neurologic deficit was apparent in the immediate or subsequent convalescent period.

Comment.—This patient reported had been apneic and hypotensive for 12 hours prior to dialysis. His improvement in respiration, blood pressure and level of consciousness was paralleled by a marked fall in serum barbiturate level. His convalescence was uneventful.

Case 6. J. A. T. (UMMC 03-43-87). This 26 year old white female was seen in the emergency room of her local hospital on October 4, 1961, several hours after ingesting 5.4 grams diphenylhydantoin and 3.6 grams of phenobarbital. After gastric lavage, the patient was transferred to the University of Missouri Medical Center for observation. On admission, the patient responded only to painful stimuli but the deep tendon and corneal reflexes were present. Two hours later the blood pressure began a progressive fall and the corneal reflexes disappeared. Extracorporeal hemodialysis was begun immediately. The patient was alert and talking after three hours of dialysis and the procedure was terminated. A few hours after dialysis was terminated, she became quite drowsy but could be easily aroused. Her subsequent course was complicated only by an aspiration pneumonitis which responded rapidly to treatment.

Comment.—This patient had purposefully taken an excess of Dilantin and phenobarbital, followed by an unspecific amount of ethanol. Her response to dialysis was extremely prompt. It was not possible to distinguish clinically whether the majority of her signs were from Dilantin or phenobarbital. In view of evidence that Dilantin[9] is dialyzable and only a mild decrease in serum barbiturate level, 17.5 mg. per cent to 13 mg. per cent, it was felt that part of her clinical picture was due to Dilantin.

GROUP 3—PERIODIC DIALYSIS FOR CHRONIC UREMIA

The care of patients with chronic renal insufficiency is often ineffective. Reduction of dietary protein (and, therefore, osmolal or solute intake) intake, maintenance of a urinary output of two liters daily and allowing the proper amount of sodium intake (3 to 9 grams) have constituted the foundation of therapy. Prompt attention to febrile diseases, nausea and diarrhea by correction of water and electrolyte deficits can restore the patient to his previous status. The patient with a reduced glomerular filtration rate may be supported over these periods and returned to their usual status without dialysis. The following case summary emphasizes this fact.

Case 7. L. A. (UMMC 01-08-73). This 62 year old white female was first admitted to the University of Missouri Medical Center in June 1958 with a four month history of intermittent epigastric pain, nausea and vomiting. Prior to admission, she could retain nothing taken by mouth. She was markedly dehydrated and laboratory data revealed a blood urea nitrogen of 105 mg. per cent, creatinine, 3.4 gm. per cent. An x-ray of the abdomen demonstrated a normal sized left but a small right kidney. With intravenous correction of electrolyte imbalance and adequate hydration, the blood urea nitrogen was reduced to 40 mg. per cent. She resumed oral feedings and was discharged.

She was admitted for the second time in April 1962 with a history of persistent vomiting for eight days. The blood urea nitrogen was 172 mg. per cent, creatinine, 7.4 mg. per cent and a repeat abdominal x-ray revealed both kidneys to be small. Urine culture returned a heavy growth of Escherichia coli. She again responded rapidly to intravenous therapy and the blood urea nitrogen fell to 41 mg. per cent. Prior to discharge, a percutaneous renal biopsy demonstrated chronic pyelonephritis and arteriolar sclerosis.

Comment.—This woman has a glomerular filtration rate of 30 per cent of normal and becomes ill with moderate dehydration and sodium loss. It has been gratifying to see her recover with restoration of water and electrolyte losses. Adequate attention to these therapeutic principles has made dialysis unnecessary in this patient.

Certain patients with chronic renal insufficiency may become so ill during the course of an intercurrent disease that dialysis seems mandatory. An example of this clinical situation follows.

Case 8. R. G. C. (UMMC 01-52-05). This 46 year old white male, a sawmill worker, was admitted to the University of Missouri Medical Center on March 25, 1959. He was in apparent good health until two weeks prior to admission when he developed a right lower lobe pneumonia and was hospitalized by his local physician. There was little or no response to penicillin therapy and in addition, he developed nausea and vomiting. He was than transferred to the University of Missouri Medical Center.

On admission, he was noted to have a blood pressure of 148/90; pulse, 56 per minute; temperature, 98.4 F.; respiration, 32 per minute. He appeared chronically ill and mentally obtunded. Fluid was noted in the right pleural cavity and bilateral costal vertebral angle tenderness was present.

The hemoglobin was 12 gms. per cent; hematocrit, 39 per cent; white blood count, 28,950; 2+ proteinuria was present with a urine specific gravity of 1.014. Urinary sediment contained 10 white blood cells per high powered field with no casts. Phenolsulfonephthalein excretion was less than 5 per cent in 15 minutes. Serum potassium was 10.1 meq. per liter. A plain film of abdomen revealed small kidneys bilaterally. Other laboratory data are presented in figure 3.

Extracorporeal dialysis was performed on the day of admission because of severe hyperkalemia and uremia. A chest tube was then inserted and 3,600 cc. of purulent material was drained. Subsequently, the urinary output was sufficient to make further dialysis unnecessary. Prior to discharge, a percutaneous kidney biopsy was done and revealed changes of chronic glomerulonephritis.

Comment.—This patient with chronic glomerulonephritis was seriously ill with pneumococcal empyema and uremia. Marked hyperkalemia and uremia were indications for immediate dialysis. Surgical drainage of the empyema was then accomplished. Meticulous attention to water, sodium and protein intake resulted in further improvement both clinically and chemically (fig. 3). This patient died of uremia four months after discharge but during most of this time he was comfortable and at home.

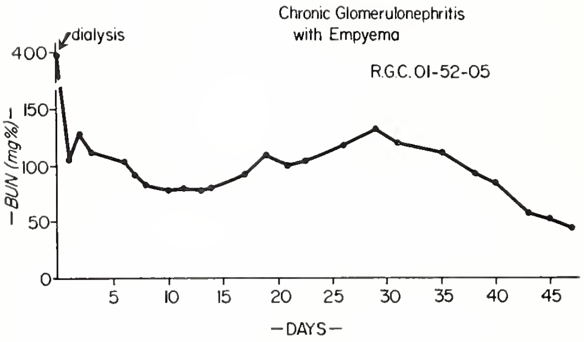

Fig. 3. Case 8. There was an immediate decrease in blood urea nitrogen following dialysis. There was also a further fall in blood urea nitrogen (from 130 to 45 mg. per cent) with conventional therapy (as discussed in text).

In contrast to this type patient, there is a group of patients with more advanced deterioration of renal function who will not tolerate even minor illness because of marked decrease in renal reserve. These patients, in general, will have a creatinine clearance of less than 10 ml. per minute and a fixed urinary output of less than one liter per day. It is difficult to assist these individuals with the program outlined. Scribner has pioneered methods for chronic vessel cannulation[3] and intermittent hemodialysis in patients with terminal uremia.[15] The concept of weekly or semi-weekly hemodialysis has been applied to a group of patients with rather remarkable results. There has been amelioration of the uremic syndrome and sense of well being for as long as four years. The criteria for choosing patients for a chronic intermittent hemodialysis program have been outlined.[16] Our experience with such a patient is outlined below.

Case 9. M. B. (UMMC 02-87-83). This 32 year old white female has been followed at the University of Missouri Medical Center since February 1961. She has had proteinuria since 1954 and previous urological workup revealed bilateral chronic pyelonephritis.

Her first admission to this hospital was in March 1961 at which time she was hypertensive, anemic and azotemic. During therapy, the blood urea nitrogen fell and following discharge, she did fairly well until an exacerbation of pyelonephritis in August 1961. She was admitted for this infection and at that time, her blood urea nitrogen was 64 mg. per cent, creatinine, 7.4 mg. per cent, and the creatinine clearance was calculated to be 7.5 ml. per minute. She improved on antibiotic therapy and was soon discharged.

She was admitted again in November 1961 in congestive failure. The blood urea nitrogen and creatinine had subsequently risen to 120 mg. per cent and 12.2 mg. per cent respectively. Her response to therapy was satisfactory until the third week of hospitalization when her course was complicated by a staphylococcal septicemia. Urinary output decreased, the blood urea nitrogen once again began to rise and congestive failure became worse. Peritoneal dialysis was done in hopes of tiding her over this crisis. The response was encouraging. Her subsequent course, however, revealed that the urinary output was insufficient to prevent uremia.

The previous response to peritoneal dialysis seemed to indicate she would be a good candidate for periodic extracorporeal hemodialysis. Extracorporeal hemodialysis* was done at weekly intervals until continued clotting of the Teflon arteriovenous shunt forced temporary discontinuance. Since that time, she has been maintained on weekly peritoneal dialysis and appears to be doing well in spite of a urine output of less than 300 ml. daily. Figure 4 shows the weekly changes in her blood urea nitrogen.

Comment.—This patient enters the hospital on one evening, is dialyzed the next day and returns to her husband and three young sons on the third day. Prior to the institution of the dialysis program, she had been confined to a hospital bed for two months without appreciable benefit. She now is able to help with household duties and she is pleased with her improvement. It is apparent from figure 4 that extracorporeal dialysis affected a better chemical improvement than peritoneal dialysis.

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* The disposable coils for use with this patient were kindly supplied by Travenol Laboratories, Morton Grove, Illinois.

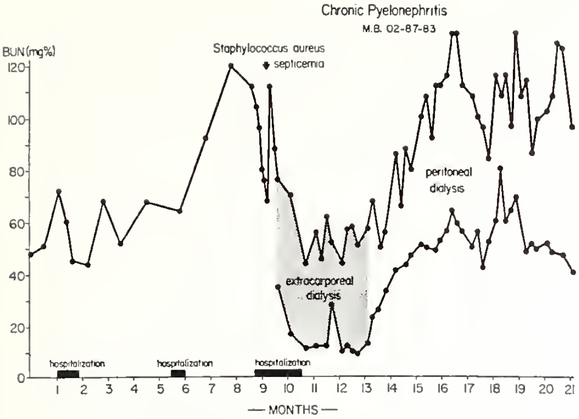

Fig. 4. Case 9. The upper line, starting at month nine, represents the weekly predialysis blood urea nitrogen. The lower line represents the postdialysis values. It is quite apparent that chemical improvement is better with eight hours of extracorporeal dialysis than with 24 hours (48 liters) of peritoneal dialysis.

DISCUSSION

The patients described were primarily treated with extracorporeal hemodialysis; however, we do not feel that there is a direct competition between this and peritoneal dialysis. Some patients are more suited to peritoneal dialysis. These patients are:

1. Coagulation defects (i.e., thrombocytopenia).
2. Active gastrointestinal hemorrhage.
3. Those without accessible vessels.
4. Those with rare blood types.
5. Small children and infants.

In addition peritoneal dialysis is easier, requires less personnel for maintenance and does not require a trained team or elaborate mechanical equipment.

Patients who are best treated with extracorporeal hemodialysis are:

1. Patients with acute drug intoxication.
2. Patients convalescing from abdominal surgery (especially if drains are present).
3. Patients with a large body surface area.

We feel that the important factor in decreasing morbidity and mortality in patients with drug overdosage is rapid removal of the agent. Removal is three to six times more rapid with extracorporeal hemodialysis than with peritoneal dialysis. With a trained team, there is no delay associated with preparing for extracorporeal dialysis.

In instances of acute tubular necrosis following abdominal surgery (Case 1), it seems unwise to use peritoneal dialysis. There rarely is peritonitis following peritoneal dialysis; however, the risk would seem to be greater in patients following intra-abdominal surgery.

The clearance rates (dialysance, peritoneal extraction) of substances are from three to six times greater per minute with extracorporeal hemodialysis in contrast to peritoneal dialysis. For this reason, we choose extracorporeal hemodialysis for patients with large body surface areas. In large patients with extensive tissue destruction (Case 1), extracorporeal dialysis may be prolonged for eight to 12 hours.

The use of regional anticoagulation (anticoagulating the dialyzer and not the patient) by either heparin[17] or citrate[5] has proven safe in patients with active gastrointestinal bleeding. This problem is no longer a contraindication to extracorporeal hemodialysis.

SUMMARY

Experience with eight selected patients treated by extracorporeal hemodialysis is presented.

Specific problems inherent in the management of these patients is discussed.

A brief comparison of extracorporeal hemodialysis and peritoneal dialysis is presented.

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Current Methods for the Diagnosis Of Thyroid Disease

In the last 15 years unbelievable progress has been made in methods for the study and diagnosis of thyroid disease. Prior to that time the most significant laboratory studies available to the average physician were the blood cholesterol determination and the basal metabolic rate (BMR). Among the earliest additions to the group of diagnostic studies was the protein-bound iodine (PBI) determination of the serum. The discovery of antithyroid drugs (thiourea groups), which interfere with the production of thyroid hormone, made possible the separation and identification of certain steps in hormone synthesis. Due to the specific affinity of the thyroid gland for iodine, the development of radioactive iodinated substances made possible the development of several hundred studies designed to give information relative to various phases of thyroid function while the utilization of electrophoresis and paper chromatography provided important diagnostic tools for many of the more complicated problems. Of all these methods some are technically quite difficult, some are suitable only for research while still others require the use of such expensive equipment and have such infrequent demand as to be impractical for the average physician in private practice or the average private hospital. There are, however, a number of studies which are excellent for either ambulatory or hospital patients and their judicious selection will, with rare exception, give adequate information for diagnosis when combined with careful clinical appraisal.

In addition to a good history, careful physical examination and the exercise of sound clinical judgement, the correct evaluation of most thyroid problems often depends upon the judicious use of one or more studies of thyroid function. A discussion of basic thyroid physiology, the iodine cycle and the uses and limitations of the usually available tests of thyroid function is given since only by proper selection and interpretation of these studies can their maximum benefits be obtained.

It is important to recognize at the outset that no one test measures all functions of the thyroid gland. Each test measures only a specific portion of thyroid activity and therefore none is comparable with another, each giving information not obtained by any other method. The I-131 thyroid uptake, for example, is essentially a measure of the ability of the thyroid to trap or secrete iodine. The PBI is the measure of the total iodine, not just hormonal, which is bound to protein. The conversion ratio indicates the rate of release of hormone from the gland. The triiodothyronine erythrocyte uptake (T-3 uptake) test indicates the degree of saturation of plasma binding sites by thyroid hormone and is, therefore, normally an indication of the amount of thyroid hormone in the plasma. The BMR measures the impact of thyroid hormone upon the body cell. Since the chief function of the thyroid is the secretion of iodine and the manufacture of hormone and since most modern studies involve a measurement of iodine, it is important that one have a basic knowledge of the iodine cycle and the factors affecting it in order to properly select and interpret those tests which will give a maximum of information.

The Iodine Cycle

There are still many aspects of the fate of iodine in the body which have not been clearly elucidated and many of the functions of the thyroid gland have not yet been definitely determined. Many important aspects of the subject are so extremely technical, complex and equivocal that their inclusion here would only result in confusion. The following outline, therefore, is intended to present those basic aspects which currently have most general acceptance.

1. *Iodine enters the body in food and water ingested.*—Iodine is ingested in the form of ionic iodide, iodine in an oxidized state and iodine in organic combination.[3]

2. *Organic and elemental iodine is changed to*

iodide in the process of digestion and appears in the plasma as inorganic iodide.[3]—The thyroid gland appears limited in its ability to deal with iodine in any valence state other than iodide. Fortunately iodide and iodate appear to be the forms of iodine in most natural foods and water and apparently iodate is easily converted to iodide in the intestinal tract.

3. *Iodide circulating in the blood is either trapped by the thyroid gland or excreted by the kidneys.*—Iodide is disposed of chiefly by excretion through the kidneys (60 per cent) or secreted by the thyroid gland (30 per cent). Trapping of iodide by the thyroid is enhanced by the presence of thyroid stimulating hormone (TSH), also known as thyrotropin, being increased within hours following its administration.[19] Trapping is interfered with by thiocyanate and perchlorate but this can be overcome by large doses of iodine. Thiocyanate interferes with the iodide concentrating mechanism of the gland[13, 15, 34] and explains the appearance of goiter a few years ago in patients taking thiocyanate for the control of hypertension. Following prolonged treatment with adrenocorticotropic hormone (ACTH) or cortisone there has been observed the frequent development of symptoms of hypothyroidism.[23] A definite decrease in the I-131 thyroidal uptake has also been noted during treatment with cortisone.[29] When large doses of cortisone are used there is regularly produced a marked inhibition of the iodine accumulating function of the thyroid and a frequent elevation of the renal clearance of I-131.[28, 38]

4. *Iodide is oxidized to iodine.*—Iodide, for purposes of this discussion, is not reactive with protein but iodine readily combines with tyrosil groups (amino acids). Therefore, oxidation of iodide to iodine must and does precede incorporation into an organic form. This is probably brought about by an enzyme action involving the thyroid cell. In the presence of sulfonamides[10] or thiourea drugs[9, 11] this reaction is blocked; however, the gland still retains the ability to concentrate inorganic iodide.

5. *Iodine combines with tyrosil groups.*—Almost immediately upon entrance into the normal thyroid gland iodide is converted to elemental iodine which combines with tyrosil groups, resulting in iodinated thyroglobulin.[57] This is the process of organic binding and is commonly referred to as the organification of iodine. In the normal thyroid gland organification and binding take place rapidly so that only insignificant amounts of iodide are returned, as such, to the plasma. Binding may be partially inhibited or entirely lacking in certain goitrous cretins.[25, 48] Transient inhibition may occur following I-131 therapy,[39] the radiation apparently affecting the ability of the thyroid to organify iodide to a greater degree than it affects the iodide concentrating mechanism. This defect is of clinical importance because the four hour uptake of I-131 by the thyroid may be considerably elevated yet the thyroid gland may be secreting only a normal amount of thyroid hormone, the 24 hour I-131 uptake falling within normal limits. Just where binding takes place is still not established but, more important, most of the organic iodine in the thyroid has been found associated with thyroglobulin[6] with the formation of monoiodotyrosine, followed by the elaboration of diiodotyrosine and finally thyroxine.[57]

6. *Diiodotyrosines condense to form thyroxine.*—While the sequence of thyroxine synthesis is still subject to dispute, it would appear that monoiodotyrosine is a stable precusor of diiodotyrosine[22] which, in turn, is the precusor of thyroxine.[16] That thyroxine is formed by the conjugation of two molecules of diiodotyrosine[1, 2, 12, 27] continues to be the most favored hypothesis.

7. *Thyroxine is secreted into the lumen of the thyroid follicle as thyroglobulin. A small amount may enter the blood directly as thyroid hormone.*—A small amount of thyroxine may normally be released directly into the blood but the major portion is secreted into the lumen of the thyroid follicle as thyroglobulin, in which state it is stored for future use. At present it would seem that thyroglobulin is the repository for the storage of thyroxine.[7, 17, 20, 33]

8. *As thyroid hormone is needed thyroglobulin is broken down into smaller particles, releasing thyroid hormone into the blood.*—Thyroglobulin is a large complex molecule with a weight of 650,000 to 800,000.[6] It must be broken down, therefore, or degraded, in order that thyroid hormone, a smaller sized molecule, may penetrate the blood vessels. This is accomplished by TSH stimulation, thyroxine apparently being freed from thyroglobulin by proteolysis.[39] This process is inhibited by an excess of iodides. High serum iodide levels, by producing high thyroidal concentrations of iodide, actually decrease the absolute amount of iodine bound into organic form.[14] Not infrequently the continued administration of large doses of iodine to euthyroid subjects in the treatment of asthma and emphysema has resulted in hypothyroidism and goiter, apparently the result of persistent inhibition of organic binding of iodine by the thyroid.[42, 43]

9. *Thyroid hormone, after release from the*

thyroid gland, is distributed to the body cells where, upon entering the cell, it is metabolized, releasing iodide which is again available for more hormone synthesis or excretion by the kidney.—After secretion of thyroid hormone into the plasma it is distributed to the tissues where it undergoes various chemical transformations and is finally partially or totally deiodinated. With the breakdown of thyroglobulin there are released thyroxine, triiodothyronine and iodotyrosine.[39] In the process of metabolism thyroxine is broken down, apparently by enzyme activity, with the production of triiodothyronine and I. This step is frequently spoken of as dehalogenation. Peripheral deiodination of thyroxine to triiodothyronine is evidenced by the appearance of labeled T-3 in the plasma following the injection of labeled thyroxine into athyreotic patients.[47] Thyroxine is carried in the plasma in loose combination with serum proteins and it has been shown that in physiologic concentrations, the bulk of the thyroxine is bound to a protein migrating electrophoretically between a-i and a-ii (interalpha zone) globulins, the remainder being bound to serum albumin.[35, 36, 37]

While a large number of tests for thyroid function have been devised, the following will be found, individually or in combination, to be relatively simple of performance, within the scope of any good isotope laboratory to provide and furnishing sufficiently important data for most diagnostic problems.

Radioactive Iodine (I-131) Thyroidal Uptake

The I-131 thyroidal uptake is perhaps the most widely used diagnostic study employed for thyroid problems today. It is simple to perform, requires a minimum of cooperation from the patient and a minimum dose of radioiodine. With modern equipment and methods it is rarely necessary to employ more than 5 microcuries of radioiodine. In the strict sense this test measures only the ability of the thyroid gland to take up iodine and this is used as an estimate of the secretory activity of the gland. Under conditions of equilibrium the rate of thyroidal uptake of iodine is equal to the rate of hormone discharged. Unfortunately, this assumption can seldom be found to actually exist in the individual subject since there are wide day to day fluctuations in iodide intake and excretion. While, in most cases, the ability of the thyroid to accumulate iodine is a good index of its ability to manufacture and release hormone, this is not always true. It must be remembered that the uptake of iodine by the thyroid is influenced by all of the factors which influence the thyroid clearance rate, the renal iodide clearance rate and the body iodide space and the speed with which it is filled. The amount of I-131 taken up by the thyroid per unit of time is proportional not only to the functional activity of the gland but also to the plasma concentration of I-131. While the 24 hour determination is probably the most commonly performed study, it should be pointed out that the four hour or six hour uptake studies may frequently provide more valuable information since they are most effective in separating persons who are euthyroid from those who have exophthalmic goiter. This is entirely reasonable since, in most patients with exophthalmic goiter or hyperthyroidism, the peak collection of the isotope by the thyroid gland occurs much earlier than 24 hours after the administration of the tracer dose. The rapid turnover of hormone in these cases can also result in a 24 hour value below that of the four or six hour uptake. While the radioiodine uptake test has certain advantages, it also has certain disadvantages. The greatest difficulty with all iodine studies is their susceptibility to error as the result of exogenous iodides. The clinical interpretation of abnormally low uptakes is always hindered by the knowledge that exogenous iodine from both known and unknown sources may frequently be the cause of such findings. The accuracy of all iodine studies is also affected by certain disease states, the administration of a number of drugs and following the use of numerous substances for diagnostic purposes.[52, 64, 65] The I-131 thyroidal uptake is not fully effective in separating patients with thyroid disease from normal persons. While most radioiodine tests can be used with relatively high precision in the separation of patients with exophthalmic goiter from normal individuals, they are not nearly so efficient in the separation of patients with thyroid deficiency from normal persons or in the detection of hyperthyroidism in persons with adenomatous goiter. Iodine deficiency may be associated with goiter and hypothyroidism and, at the same time, show an I-131 uptake in the hyperthyroid range. It must also be remembered that euthyroid nodular goiters will usually show a thyroidal accumulation of I-131 above normal. The degree of abnormality indicated by the results of the radioiodine test is often not correlated with the severity of the hyperthyroidism as estimated by the physician, whereas elevation of the BMR usually does give a closer correlation with the clinical severity. Although the patient may be mildly hyperthyroid, with a BMR that is nearly normal, the values of the radioiodine test are usually far above normal range and thus may be diagnostically decisive in a patient whose hyperthyroid status is completely equivocal by other criteria. Such problems occur with sufficient frequency as to require careful consideration in the interpretation of all results. With an 80 per cent correlation with the true thyroid status it is an excellent screening test, the remaining 20 per cent usually requiring one or more additional studies for final evaluation.

URINARY I-131 EXCRETION STUDIES

The thyroid gland and kidneys are the two main competitors for the iodine stores of the body. If renal function is normal all but about 10 per cent of the dose of I-131 can be accounted for in the thyroid gland and urine in 24 hours, about 30 per cent being taken up by the thyroid and 60 per cent being eliminated through the urine. Urinary excretion studies are of value in several conditions:

1. Following total thyroidectomy for carcinoma of the thyroid, a retention of 40 per cent or more of the administered dose of I-131 in 24 hours is suggestive of functioning thyroid tissue present somewhere in the body.

2. The sum of the I-131 taken up by the thyroid gland and that excreted by the kidneys is referred to as the total accountable iodine[44] and can be of value in certain cases. Since persons who are hypothyroid excrete smaller amounts of the tracer I-131 than normal individuals, urinary excretion studies can be used to estimate if the dosage of thyroid medication is adequate. When replacement therapy is increased, urinary excretion of the tracer will increase. It is also of value in making a diagnosis in patients with mild hypothyroidism in whom low normal uptake values are found. Determination of the 24 hour excretion of I-131 in the urine is simple and usually furnishes a fairly accurate indication of thyroid function. There are some problems, however, to be reckoned with concerning distorted results. One major disadvantage is that the study requires the full cooperation of the patient. If the collection of urine is incomplete results will be misleading. The thyroid must compete with the kidney for iodine and, in general, because of the much greater blood flow to the kidney, more ingested iodine is lost in the urine than is accumulated by the thyroid. Therefore, indirect measurements of the iodine concentrating mechanism of the thyroid, such as the four hour and 24 hour uptake, measure the net result of both thyroid and renal function.

This becomes important in patients with renal disease and congestive heart failure since these subjects may not excrete normal amounts of I-131 in 24 hours. In the presence of renal disease the amount of iodine in the diet becomes particularly acute. The renal excretion may be so inadequate that, in the presence of a generous iodine intake, the level of iodide in the blood rises markedly, the fractional uptake by the thyroid may be decreased although the total amount of stable iodine accumulated by the thyroid remains normal. The 24 hour uptake may be normal or decreased because the lack of competition for I-131 permits continued accumulation by the thyroid. If, on the other hand, the dietary iodine is low, the level of iodide in the blood may not rise much. In these conditions the 24 hour uptake will be elevated. In the absence of renal disease, iodine in the diet is also of considerable importance. The thyroid gland of a person living in an area of iodine deficiency may secrete normal quantities of thyroid hormone but to achieve this end the gland becomes hyperplastic and a markedly elevated I-131 thyroidal uptake results.

TRIIODOTHYRONINE (T-3) SUPPRESSION TEST

It has long been known that the administration of thyroid extract, even in large doses, will not suppress function of the thyroid gland in either diffuse toxic or toxic nodular goiter.[40, 50, 53] More recently it has been found that 1-thyroxine and 1-triiodothyronine are not only reliable for this test but, due to their more rapid action and short duration, are now to be preferred to desiccated thyroid. In using 1-triiodothyronine,[53] the test is accomplished in the shortest time (one week) and the patient does not have an intensification of the symptoms of hyperthyroidism. The test is most useful in:

1. Ruling out hyperthyroidism as the cause of exophthalmopathy.

2. Evaluating cases with an elevated I-131 thyroidal uptake but in whom clinically there is no suspicion of hyperthyroidism.

3. Certain cases in which there may be essentially normal studies but a high suspicion of hyperthyroidism from the clinical picture. It is most important to keep in mind that hyperthyroidism shows a cyclic rhythm in the intensity of symptoms.[18] In the euthyroid phase of the disease patients may give the clinical picture of complete normalcy and even many of the studies may be within normal limits. Patients may also be in the euthyroid stage yet show the ocular

signs, including exophthalmos, of Graves' disease.[51] The thyroid glands of these patients, however, cannot be suppressed by the administration of thyroid hormone until the hyperthyroidism has been corrected by thyroidectomy, I-131 therapy or antithyroid drugs.

THYROID STIMULATING HORMONE (TSH) STIMULATION TEST

Within hours after the administration of TSH to normal individuals there is an increase in the uptake of I-131 by the thyroid and a concomitant increase in output of thyroid hormone.[19, 30, 31, 49] This forms the basis for certain useful tests:

1. The TSH test may be used to differentiate primary from secondary hypothyroidism. In primary hypothyroidism the gland is defective and incapable of function, therefore no significant improvement in the I-131 uptake is observed after the administration of TSH. In secondary hypothyroidism the pituitary gland is at fault, in failing to provide TSH, while the thyroid is essentially normal and able to function. TSH administration accordingly results in a significant increase in the I-131 uptake.
2. In subacute thyroiditis the thyroid gland has been severely traumatized so that, at least temporarily, function is greatly reduced and the uptake of I-131 is uniformly suppressed.[21] TSH stimulation therefore does not significantly improve thyroid uptake in these cases. Patients with nontoxic nodular goiter and carcinoma of the thyroid will usually have a normal TSH response.
3. TSH administration usually will increase the uptake of I-131 in metastatic thyroid carcinoma.
4. In many cases of untreated exophthalmic goiter, TSH administration does not result in significant increase in thyroid function. The test is therefore useful in differentiating the exophthalmos of thyroidal from non-thyroidal origin.
5. Since TSH administration results in marked output of thyroid hormone in the normal gland, its administration may be used to unblock the gland, in patients receiving desiccated thyroid. Ten units of TSH will usually unblock the depressing effects of 3 grains of desiccated thyroid.
6. An abnormally low thyroidal uptake of I-131 due to the administration of iodine can be differentiated from that caused by hypothyroidism or by exogenous thyroid medication. In true hypothyroidism TSH has no effect on the low PBI or I-131 uptake.[26] When thyroid inhibition is caused by iodides the PBI is increased but the thyroidal uptake of I-131 is not affected by TSH administration.[8] Both the I-131 uptake and the PBI are increased by TSH administration when thyroid inactivation has followed the use of exogenous thyroid.

I-131-1-TRIIODOTHYRONINE (T-3) ERYTHROCYTE UPTAKE TEST

This test is based on the fact that thyroid hormones are bound to a specific plasma protein of the blood, any excess being bound to the red blood cell.[41, 56, 61] Since plasma is more avid for thyroid hormone, plasma binding is first satisfied, after which any remaining hormone is available for binding to the red cell. An excess of thyroid hormone therefore, as in hyperthyroidism, causes greater saturation of the plasma binding sites, leaving a greater amount available for the red cells whereas, in hypothyroidism, the plasma is unsaturated, will bind more hormone, leaving less to be bound to the red cell. The test is not interfered with by iodide administration in less than therapeutic doses and therefore is excellent for following patients on replacement therapy, antithyroid drugs or after radioiodine therapy. It therefore has supplanted the use of those portions of the urinary excretion studies, the TSH stimulation test and the BEI test which, in the past, have been useful in the detection of errors caused by exogenous iodides. Being an in vitro test no radioactive material is administered to the patient which makes it especially suited for use with children or pregnant women. A large experience is gradually being accumulated with this test which reveals it to generally correlate more closely with the clinical status of the patient (95 per cent) than the other standard tests of thyroid function. The test has also been found to be altered characteristically in certain clinical conditions not related to thyroid function which makes it of further value to the clinician.[56, 59, 61, 62, 65]

The test gives increased values in hyperthyroidism, nephrosis, severe liver disease, extensive metastatic malignancy, severe pulmonary insufficiency with CO_2 retention, paroxysmal atrial arrhythmias and with the use of anticoagulants, Dicumarol and heparin. Values are reduced in hypothyroidism, pregnancy, estrogen administration, during the administration of antithyroid drugs and following the use of iodides in therapeutic doses for the treatment or control of hyperthyroidism. No significant effect on values is noted in colloid goiter, congestive heart failure, hypertension, diabetes mellitus, Addison's disease or with the use of mercurial diuretics. This test is of particular value in the field of obstetrics. Normally T-3 values are reduced to subnormal levels by the end of the second month of pregnancy (three to eight weeks) and remain essentially unchanged throughout the pregnancy, returning to normal by the end of the second post-partum week. Those patients failing to show such a response have been found to have an unusually high incidence of complications such as serious bleeding, miscarriage or abortion. Routine use of the test in obstetrical practice will serve as an excellent means of alerting the physician to the possibility of complications before they appear and the patient can be forewarned.

Serum Protein-Bound Iodine (PBI)

This test is a measure of the iodine in the blood which has been bound to protein. Since normally the iodine bound to protein is essentially all hormonal, this determination is generally considered to represent a direct quantitative estimation of the level of the circulating thyroid hormone. The test, however, is subject to the same sources of error as are all of the iodine studies,[52, 64] chief among which is the influence of exogenous iodides. The use of certain drugs and certain disease states are also known to affect binding. The PBI is generally considered to be one of the most valuable of all thyroid studies and has often proved decisive when results of other studies were inconclusive. It is possible, however, for PBI values to be within normal range in cases of abnormal thyroid function. When this happens many of the other thyroid studies are likely to support the true picture and be unquestionably abnormal. It is known that the serum PBI levels may be altered in circumstances other than hyperthyroidism and hypothyroidism. Since exogenous thyroid suppresses endogenous thyroid function the changes in the serum PBI following the ingestion of thyroxine will depend upon the absorption of thyroxine, its binding by protein of the serum, the distribution in the body fluid compartments and the subsequent disruption or removal of this combination from the circulation by utilization, degradation or excretion. PBI values are increased in hyperthyroidism, infectious hepatitis, pregnancy, with thyroid medication, in thyrotoxicosis factitia and in the presence of exogenous iodides. Values may be normal or elevated in subacute thyroiditis. Values may be normal or reduced in iodine deficient goiter, goitrous cretins, with a low salt diet, acetazolamide administration and two to seven days after cessation of therapy with adrenal steroids.

The PBI is lowered by sulfonamides, after several months of antithyroid drugs, after several months of cobalt (hematinic) therapy, in primary and secondary hypothyroidism, cretinism (athyreotic), cirrhosis of the liver, with administration of triiodothyronine, adrenal steroids, Butazolidine and Dilantin.[64, 66, 67] Technically the PBI is most exacting and difficult, requiring the facilities and proficiency of personnel not available to the average laboratory. The quantities of iodine in the serum are so small that little or no contamination is permissible. Ultimately the value of the PBI depends upon the accuracy of the analytic methods employed. In many cases it has been found to be more satisfactory to send the specimen to one of the professional laboratories. This usually requires a delay of four to five days. While the I-131 thyroidal uptake is of little value in the detection of hyperthyroidism in nodular goiter, the PBI is reliable.

Butanol Extractable Iodine (BEI)

This test was developed from original studies designed to extract thyroxine from thyroid tissue.[4, 5] One of its chief advantages is that it avoids the errors caused by iodides. The basis for the test is that iodine compounds can be extracted with butanol, following which, inorganic iodine and most of the organic compounds, with the exception of thyroxine, can be completely washed out of the butanol with alkali.[17] Since the PBI is so easily disturbed by iodides, the BEI has been shown to have an appreciable advantage in many cases.[63] In patients treated with radioactive iodine the thyroid may secrete iodinated compounds not normally found in the blood.[39] Clinical progress cannot be followed by the PBI or I-131 thyroidal uptake but the BEI, not being affected by the metabolic abnormality of the thyroid, can serve as an accurate measure of thyroid function during therapy. While values are known to be increased in pregnancy, hyperthyroidism and infectious hepatitis and decreased in myxedema and frequently in hypoalbuminemia,[52] perhaps the most useful employment of the test is in the diagnosis of thyroiditis.

The maximum BEI level for adults is normally at least 1 gamma per cent less than the maximum for the PBI.[63] Several investigators have noted the abnormally large differences between the PBI and BEI values (the PBI is usually significantly increased) in thyroiditis,[45, 59] which, together with a lowered level of the serum albumin, is of definite diagnostic value. The discharge of labeled iodine from the thyroid in thyroiditis is taken to mean that the portion discharged is in the form of inorganic iodide and presupposes a defect in organic binding of iodine. Although the inorganic iodide level is not a direct measure of thyroid function, its determination is of value since a high value offers a clue to the previous use of iodine containing substances. Therefore determinations should be made of both protein-bound and inorganic fractions. An elevated PBI and a low or normal I-131 uptake should suggest Hashimoto's thyroiditis. When both the PBI-131 and the thyroidal I-131 uptake are elevated, Hashimoto's thyroiditis may be distinguished from hyperthyroidism by the T-3 suppression test. The PBI measures the total iodine bound to protein and not just hormonal iodide, which is usually the important compound to be considered. Therefore, to avoid error due to inorganic iodides, the extraction of iodine by butyl alcohol becomes important. Like the PBI, the test is probably most accurately accomplished in a laboratory specializing in the procedure. Most laboratories specializing in the PBI test are now also reporting simultaneously the percentage of inorganic iodine present in each PBI test. When this value is greater than normal it is important to the clinician since the reported value of the PBI may represent more than the true hormonal iodine.

PBI-131 Conversion Ratio

The thyroid gland normally releases organically bound hormonal iodine in response to TSH stimulation. The amount of this in the plasma is a good index of thyroid function. This may be determined by the measurement of the PBI-131 after the administration of the isotope. The conversion ratio is not only a measurement of hormonal iodine released by the thyroid but also gives information as to the rate of release. Patients with hyperthyroidism will be found to have a greater amount of labeled hormone in the plasma at 24, 48 and 72 hours than those with normal thyroid function. The 72 hours' study has a 90 per cent accuracy in both toxic diffuse goiter and euthyroidism. It is not of value in separating hypothyroidism from euthyroidism, in toxic nodular goiter or after treatment of a toxic goiter. The test has the disadvantage of a three day wait before the final result is known. It has been considered the best single diagnostic study when compared with the 24 hour I-131 thyroidal uptake, the 24 hour urinary excretion test and the total plasma I-131.[52] The test is quite useless in myxedema since the euthyroid range completely overlaps the myxedema range. The test is subject to the various factors which distort values in all iodine studies. The test is not reliable after I-131 therapy. It is of particular value in differentiating hyperthyroidism from euthyroidism. Patients with thyrotoxicosis have increased conversion ratios whereas patients with myxedema convert practically none of the I-131 to the bound form. At present the test can be accomplished simply by use of an ion exchange resin and requires a dose of at least 50 microcuries of I-131. Since, for routine clinical use it is desirable to keep tracer doses as small as possible and since other comparably accurate radioiodine tests may be readily performed with tracer doses of 5 microcuries or less, it is not justifiable to do conversion ratios on a routine basis.

Basal Metabolic Rate (BMR)

In recent years, especially with the popularity of the newer isotope methods for diagnosis of thyroid disease, there has been a tendency for many to consider the closed circuit method of measuring basal metabolism as an antiquated test which is no longer useful or satisfactory. While it is true that there are certain disadvantages to the method and certain inaccuracies in results at times, one must realize that none of the other standard tests so far developed is entirely without fault and due consideration must be given to the cause of the discrepancies, regardless of the method used. The fact is, however, that the BMR provides a type of information not obtained by any other method.[60] Radioiodine tests may mislead the clinician in a number of circumstances.

Previous thyroid surgery, radiation therapy, antithyroid drugs, many euthyroid patients with large nodular goiters and certain cases of thyroiditis may all have abnormally high uptake values which may easily be mistaken for hyperthyroidism. On the other hand, any excessive concentration of organic or inorganic iodine in the blood from exogenous sources may produce marked distortion of values, elevating some and reducing others. The BMR has certain advantages not shared by the PBI, radioiodine uptake or other newer studies in that it reflects the impact of the thyroid hormone upon the organism. As a quantitative evaluation of a thyroid disorder it frequently proves to be superior to other procdures. It usually, but not always, parallels the clinical evaluation of either hyper or hypothyroidism. The BMR provides a good means of following the response to treatment and is a good guide in replacement therapy for hypothyroidism. The BMR may give useful information in conditions in which thyroid function is essentially normal. An elevated BMR may be the first clue to an unrecognized blood dyscrasia or pheochromocytoma, in patients whose clinical examination fails to indicate evidence of hyperthyroidism and may frequently be observed in cases of severe essential hypertension. Finally, in a patient with a difficult thyroid problem, who has had all of the more modern studies without clear-cut evidence for diagnosis, a carefully and accurately performed BMR will make possible an evaluation of thyroid function with a greater degree of accuracy than may be generally appreciated.

NECK-THIGH RATIO

The thyroid clearance rate may be regarded as an absolute measure of thyroid function, since it determines the efficiency with which the gland concentrates iodine. An advantage of the test is that it measures thyroid function only and yields a value in absolute terms of plasma cleared of iodide per hour.[46] The test, however, involves a sequence of thyroid counts covering a period of approximately two hours and certain requirements in technical performance which make it cumbersome and subject to several possible sources of error. A simpler and more convenient method is the determination of the neck-thigh ratio which, for routine clinical work, furnishes information of about equal value and which can be obtained with far greater ease. This test has the advantage of speed, simplicity and reliability and requires only a small dose of I-131, the regular tracer dose serving for this also. Following a tracer dose counts are registered over the thyroid and thigh simultaneously. The greater the thyroid uptake the more radioiodine will be in the thyroid and the less in the remainder of the body, as will be indicated by the thigh count. The ratio of the two, therefore, provides a sensitive index of the uptake rate. Correlation of the neck-thigh ratio with the thyroid clearance rate is excellent, having been found to be 94 per cent in a group of 54 patients.[24]

DISCUSSION

A word should be said regarding the use of radioactive iodine for diagnostic studies. It should not be necessary to remind that radioiodine, or any other radioactive material, should be administered with discretion because such administration represents a calculated risk. It is a risk which is entirely justified if the information gained has a good chance of benefitting the patient. However, it is impossible to administer radioactive iodine without delivering radiation to the thyroid gland. The ease with which radioactive iodine is administered and the absence of any acute effects of even large doses can easily encourage carelessness. It is easy to forget that a 10 microcurie tracer of radioiodine in a normal individual will deliver approximately 15 reps to the thyroid gland.[57] This represents the amount of radiation normally permitted as the maximum permissible safe dose to the thyroid throughout the course of an entire year. Even so, it is still not uncommon to find instances in which it is routine to administer tracer doses of 50 microcuries. This is entirely unwarranted as a routine procedure as is also the repeated performance of uptake studies which, following the first one or two, can seldom be expected to contribute information of value to anyone. With modern instrumentation a 5 microcurie dose is ample for any except those involving the determination of radioactivity in the blood. It is not difficult and is extremely more accurate, flexible and economical to pipette tracer dosages than to use precalibrated capsules, the activity of which vary with the decay of the isotope. In addition, the use of a standard measured dose offers the advantage of serving as a check on the operational efficiency of equipment and personnel.

SUMMARY

With presently available tests it should be possible, in the great majority of cases, to arrive at a correct diagnosis of thyroid problems. Knowing the major factors in thyroid physiology as pertaining to hormone formation, release and degradation, it is possible to select one or more studies for the measurement of these specific functions. While it is true that the occasional problem will require many of the foregoing tests, diagnosis of the average case will not require an elaborate series of function studies. Careful clinical judgement is still of paramount importance in the diagnosis. A detailed history, meticulous examination and a certain degree of clinical acumen still serve as the foundation for the diagnosis of thyroid disease.

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Aneurysmal Bone Cyst of Humerus

A Case Report

A case of aneurysmal bone cyst of the humerus is presented with discussion of diagnosis, with radiologic and pathologic considerations.

THE PATIENT is a 51 year old white male who presented with a dull aching in the right forearm, shoulder and elbow for the last two or three months. Physical examination revealed a firm mass on the anterior media aspect of the forearm approximately five inches above the elbow, which the patient states was not present one year ago. As a result of an open fracture of the same elbow some 40 years ago there was resultant limitation of motion so that extension was limited to 90 degrees and flexion to 135 degrees for a total of 45 degrees of motion.

Procedure.—Following general anesthesia, the tourniquet was inflated. A four-inch vertical incision was made above the anterior media aspect of the distal humerus, just above the elbow, extending down through the deep fascia. The medial nerve was identified, freed up and retracted laterally. This exposure revealed a firm mass found to be arising from the surface of the distal humerus, measuring approximately 5 cm. by 3 cm. The mass was freed up both proximally and distally. Upon incision of the mass, a large amount of unclotted blood extruded from the surface. The central cavity of the mass was found to consist of degenerated type of soft material. There was a ½ cm. by ½ cm. cortical defect of the humerus centered over the soft tissue mass. The greater part of the mass was then excised and the cortical defect was curetted, and the wound was then irrigated well with sterile saline and closed. and the wound was then irrigated well with sterile saline and closed.

Radiologic Considerations.—This single case report discussed might be considered rather typical. Actually aneurysmal bone cysts are most commonly found in the shafts of long bones and in the vertebral column. When they occur in long bones the typical appearance is usually found. This tumor was well described by Dahlin as a "circumscribed area of rarefaction," a "soap-bubbled" or honey-combed appearance of the interior of the lesion, eccentric ballooned out distension of the periosteum and cortex which is usually disrupted, but with a peripheral, delimiting, thin shell of periosteal new bone, and, in a young patient, location of the lesion in the diaphysis adjacent to the epiphyseal cartilage. When found in flat bones such as metatarsals or in the vertebral column this classic appearance may be transformed, resulting in a rather symmetrical fusiform expansion. The contour of the lesion is roughly ovoid and its long axis is in the general direction of the bone in which it arises.

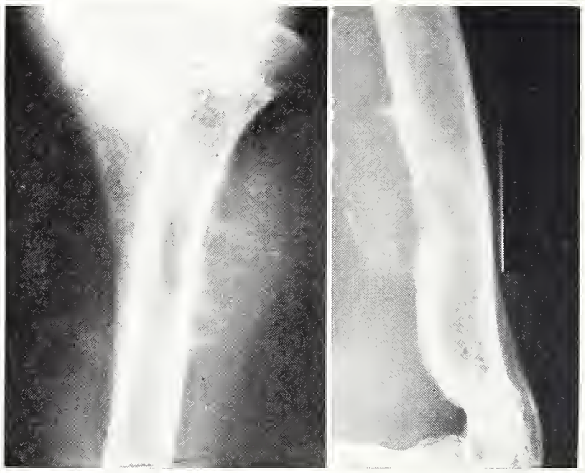

Fig. 1. AP and lateral views of the distal shaft of the right humerus demonstrating typical eccentric ballooned out soap bubble distention of cortex and periosteum.

Pathologic Considerations: Gross Specimen.—The specimen consists of multiple irregular fragments of tissue weighing 15 grams, and varying from 0.5 cm. to 3 cm. in size. They vary in color from pinkish tan to dark red. Some of the fragments are soft, whereas others are bony hard.

Microscopic Examination.—Irregular cystic spaces are evident, some of which contain red blood cells, while others are empty. These spaces are, in part, lined by a layer of flattened cells and a cuff of fibrous connective tissue, but in many areas one or the other of these is absent. Adjacent to the cystic spaces throughout, and much more prominent, is the presence of giant cells. These giant cells are quite numerous. They have from three to four to several dozen nuclei. Some of these cells are quite large. The nuclei are scattered irregularly throughout the abundant cytoplasm of the cell. The giant

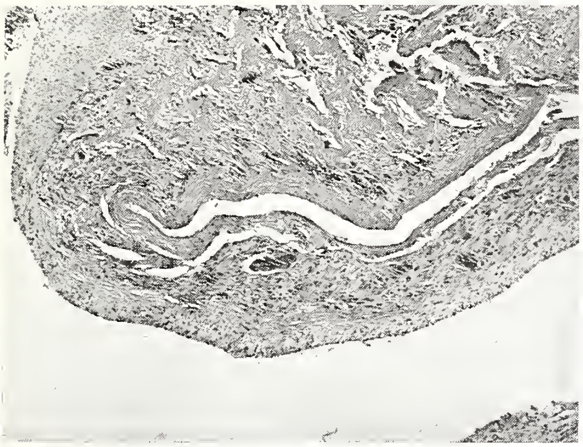

Fig. 2. Pathology of cyst.

cells are surrounded by fibrous connective tissue bone. Foci of interstitial hemorrhage, both fresh and organizing, are present. The thin cortical bone overlying the tumor shows a marked increase in osteoblastic activity. Foci of siderophages are scattered throughout the intertrabecular fibrous tissue.

Pathologic Discussion.—The gross features of the surgical specimen are non-specific and usually consist of fragmented curettings. The most important gross findings are made by the surgeon. The bone covering the lesion consists of a thin shell beneath which there is a cystic space filled with blood, blood clot and a variable amount of reddish-brown soft tissure fragments. The soft cystic nature, with the definite bloody contents of the lesion, should alert the surgeon to the possibility of an aneurysm within bone. A somewhat similar gross finding may be found in other conditions (i.e., giant cell tumor) only if the lesion is of a long standing. The pathologist should be appraised of the gross findings, if necessary. Confusion may arise if the bony tissue surface is taken for frozen section diagnosis. The proliferating bone in this area may give rise to a suspicion of an osteogenic sarcoma. The obvious feature which mitigates against this is the histologic lack of any atypicality. The numerous giant cells which may be found in the lesion must be differentiated from the numerous other bony lesions having somewhat similar cells. Aside from the vascular spaces, which serve as the best differentiating feature, the giant cells in an aneurysmal bone cyst are surrounded by a less cellular fibrous matrix, which differs from that seen in a true giant cell tumor.

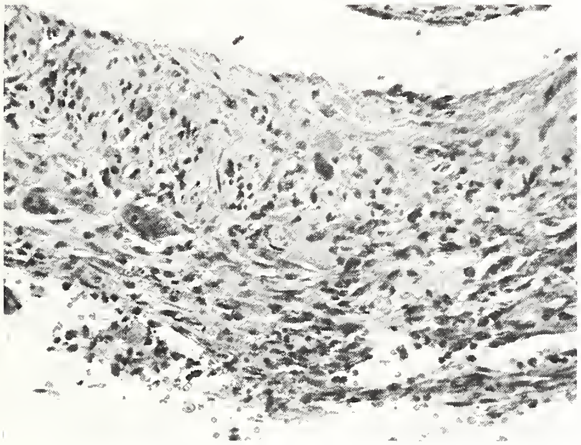

Fig. 3. Pathology of cyst.

DISCUSSION

The term aneurysmal bone cyst has had various forms of nomenclature used in the past. It has been variously called an aneurysmal giant-cell tumor or benign bone aneurysm by Ewing;[1] an atypical cell tumor or subperiosteal giant cell tumor by Coley[2] and Geschicter;[3] osteitis fibrosis cystica by Adam;[4] ossifying hematoma by Brailsford[5] and Cone;[6] pulsating benign giant cell tumor by Shallow and Wagner.[7] It was probably first recognized as possibly a more distinct clinical entity by Jaffe and Lichtenstein[8] in 1942. Not until 1950 was the term "aneurysmal bone cyst" used by Lichenstein[9] to describe a definite clinical entity. Since that time this nomenclature has been consistently and somewhat apologetically used by Lichtenstein[9] to describe a definite clinificult even though in Dahlin's[11, 12] series the correct diagnosis was made only two times in 23 cases. Giant cell tumor causes most of the difficulty and usually should be distinguishable since aneurysmal bone cysts involve the shaft and the metaphysis of long bones and not the epiphysis as is the case with giant cell tumor. Malignant conditions may occasionally present a problem and it is in these cases as well as in an atypical lesion that angiography might be considered of particular value. Lindbom feels that benign cystic conditions can be distinguished from malignant ones by using angiography.[13] However, it is natural, as with tumors of bone, to realize that the proof of the pudding is in the biopsy.

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AMA Annual Session

Special Article

Proceedings of the House of Delegates of the session of the American Medical Association held in Atlantic City, June 16 to 20, 1963, are reported. Missouri Delegates were Drs. Durward G. Hall, H. E. Petersen, Arthur W. Neilson and Richard H. Kiene.

Missouri Delegates to the AMA, H. E. Petersen, M.D., A. W. Neilson, M.D., Richard H. Kiene, M.D., and Durward G. Hall, M.D., attended the meeting in Atlantic City June 16 to 20, 1963. Alternate delegates, Rolla B. Wray, M.D., J. Loren Washburn, M.D., and Guy N. Magness, M.D., were also in attendance.

Officers of the MSMA attending the House of Delegates sessions included Kenneth C. Hollweg, M.D., President; Joseph L. Fisher, M.D., Councilor of the First District; Hector W. Benoit, M.D., Councilor of the Seventh District; and Victor V. Buhler, M.D., Past President.

Dr. Petersen served as a member of the reference committee on insurance and medical service with Dr. Neilson serving as a member of the reference committee on rules and order of business.

The first committee considered several controversial items and spent considerable time in hearing both sides of the issues referred to it and in presenting its well considered recommendations to the House. All reference committees were covered by our staff, officers, delegates and alternates, and the reactions pooled at conferences in the Missouri Room.

Delegate Durward Hall, Congressman from Missouri's seventh district, was the guest speaker on Monday morning, June 17, at the Sixth Annual Arkansas Breakfast sponsored by the Arkansas Medical Society in honor of AMA officers and members of the House of Delegates. The title of the talk was "The Washington Orbit."

Other Missouri physicians in official capacities for this AMA session were: Alphonse McMahon, M.D., St. Louis, Delegate, Section on Military Medicine; Wendell G. Scott, M.D., St. Louis, Alternate Delegate, Section of Radiology; and William J. Shaw Sr., M.D., Fayette, Chairman, Section on General Practice.

Mrs. Richard Sutter, University City, Past President of the Woman's Auxiliary to MSMA, was reelected Vice President of the north central region of the Woman's Auxiliary to the AMA. The President of the Woman's Auxiliary of the MSMA, Mrs. Lawrence S. Crispell, Joplin, and the President-Elect, Mrs. Delevan Calkins, St. Louis, also attended and took part in all sessions of the meeting of the AMA Woman's Auxiliary.

Enlargement of the Board of Trustees, the sections and scientific program of the AMA, interns and residents, a new Institute for Biomedical Research, a physician's pension plan and the relation between tobacco and disease were among the major subjects acted upon by the House of Delegates at the American Medical Association's 112th Annual Meeting.

Missouri delegates attended all sessions of the House of Delegates.

Dr. Norman A. Welch of Boston, member of the House of Delegates since 1951 and Speaker of the House since 1959, was named President-Elect of the Association by acclamation. Dr. Welch will become President at the June 1964 annual meeting in San Francisco succeeding Dr. Edward R. Annis of Miami, Florida, who assumed office at the Tuesday night inaugural ceremony in Atlantic City.

The AMA 1963 Distinguished Service Award was voted to Dr. Lester R. Dragstedt of Gainesville, Florida, research professor of surgery at the University of Florida School of Medicine, for his achievements in the fields of education, research and practicing surgery.

Final registration figures at the meeting reached a grand total of 36,811, including 12,924 physicians.

Board of Trustees

The House adopted amendments to the Constitution and Bylaws designed to implement the recommendations presented in June 1962 by the Ad Hoc Committee on the Board of Trustees. The changes will increase the size of the Board from 11 members to 15 members, by adding three elected trustees and including the immediate past president for a one year term. The amendments also set the term of office for elected Board members at three years and limit the number of terms to three, for a maximum total of nine years service. In approving the amendments, the House expressed the opinion that enlargement of the Board of Trustees "would improve communications between the Board and the Association" and that the proposed changes "would be consistent with the increase in membership of the Association and with the increase of the size of the House of Delegates."

AMA Sections and Scientific Program

In considering the report of the Ad Hoc Committee to study the Board of Trustees Report on the Sections and Scientific Program of the AMA, originally presented at the 1962 Clinical Meeting in Los Angeles, the House disagreed with some recommendations in both of those reports.

Major change was the House decision that all section officers—chairman, vice chairman, delegate, alternate delegate, secretary, assistant secretary and representative to the scientific exhibits—should be elected by members of the section and that no officers be appointed by the AMA Board of Trustees.

In another change, relating to nominations for specialty boards, the House approved the following recommendation: "The Committee of the Council on Scientific Assembly of the appropriate section shall nominate the AMA representatives to serve on the medical specialty certifying board. These nominations shall be submitted to the Board of Trustees."

In connection with section registration, the House decided that "a member of a section who desires to change his registration from one section to another because of a change in his specialty, shall be required to inform AMA Headquarters by written notice of this intention at least 60 days in advance of the Annual Meeting."

The House agreed with the Ad Hoc Committee's recommendation that the Section on Gastroenterology and Proctology be renamed the "Section on Gastroenterology" and that a separate "Section on Proctology" be established.

The House also commended the Board of Trustees for its recommendation that a national forum be sponsored by the AMA in which representatives of national medical specialty societies and the Academy of General Practice will participate. The Board of Trustees was directed to implement this suggestion as early as possible.

Interns and Residents

The House disapproved the report of the Council on Medical Service and the Council on Medical Education and Hospitals on Compensation of House Officers. In so doing, it adopted the following statement:

"We therefore recommend that in view of the overwhelming opposition to the basic proposal contained in the report of the Council on Medical Service and the Council on Medical Education and Hospitals, the AMA record itself as opposed to any system or program by which any part of an intern's or resident's salary is paid out of fees collected by the attending physician or out of fees collected under any type of medical-surgical insurance coverage."

The House, while declaring that the joint council report "represents a well-intentioned effort to find a solution to a most difficult, if not impossible, problem," recommended that any future proposals on the compensation of house officers be thoroughly studied by the Law Department and Judicial Council before submission to the House of Delegates.

In another action, related to the controversial "25 per cent rule," the House approved a revision of the Essentials of an Approved Internship which deletes the requirement for any stated proportion of foreign medical graduates and graduates of American and Canadian medical schools as an essential feature of any internship program.

New Research Institute

In acting upon two reports from the AMA Education and Research Foundation, the House approved the Foundation's announcement that it will establish and operate a new Institute for Biomedical Research, but objected to a prior news release strenuously.

The Institute will concern itself with intensive and fundamental study of life processes particularly as related to intracellular mechanisms. It will be composed of groups of dedicated, imaginative workers who are capable of significant scientific achievements through the interaction of their intellects and experiences, with unmatched facilities and maximum freedom from external pressures.

The Institute will be dedicated to pure, basic, non-disease oriented research, and it will not render medical service to patients and will not conduct a graduate training program leading to a degree. It is contemplated that the first research group should be functioning by early 1965.

MSMA officers as well as delegates followed actions of the House.

Physicians' Pension Plan

The House approved establishment of an AMA physicians' pension plan under the provisions of the Self-Employed Individuals' Retirement Act of 1962, and noted that the Board of Trustees will make every effort to begin operation of the plan before the end of 1963 so that physicians will be able to participate this year.

The plan will be open to all AMA members and their employees who can qualify under the Act, Public Law 87-792 (Keogh Law).

The law allows a self-employed individual to set aside up to $2,500 or 10 per cent of his annual income, whichever is less, in a retirement fund, with the first $1,250 being deductible. The individual must provide proportionate benefits for any employee who works for him more than 20 hours a week and more than five months each year.

Tobacco and Disease

The House agreed with a Board of Trustees report which concluded that the AMA should defer any definitive statement regarding the relationship of tobacco and disease. The report pointed out that the AMA is continuing its study of this important subject and is merely deferring any public pronouncement pending the availability of more information, including whatever may come from the study of a committee appointed by the United States Public Health Service.

In taking this action, the House declared that extensive research is still necessary for the complete answers on the cause and effect of many toxins, including tobacco. However, the House said that the AMA "has a duty to point out the effects on the young of the use of toxic materials, including tobacco, and these facts should be disseminated, particularly in our schools."

Miscellaneous Actions

In considering a wide variety of resolutions and reports, the House also:

Disapproved a Judicial Council opinion on the dispensing of glasses by ophthalmologists and reaffirmed the Council's interpretation of Section 7 of the Principles of Medical Ethics, as reported in the November 15, 1958, issue of the *Journal of the American Medical Association.*

Approved a Judicial Council opinion on physician ownership of drugstores, drug repackaging houses and pharmaceutical companies.

Approved of AMA participation in the recent formation of a Joint Commission on Medicine and Pharmacy.

Agreed with the Council on Legislative Activities that the House should take no official position on the "Liberty Amendment" but should call it to the attention of individual physician citizens.

Disapproved of federal funds for staffing new community mental health centers.

Took a position opposing the student loan provisions of the Health Professions Educational Assistance Act of 1963, and agreed to have the Board review its position on "Bricks and Mortar."

Urged all state and county medical societies to adopt and activate all phases of "Operation Hometown."

Recommended that local medical societies in the vicinity of medical schools assume the responsibility of establishing and maintaining clear lines of communication with medical students, to prevent SAMA acting on poor information or lack of experience.

Approved the organization of the new National Council for the Accreditation of Nursing Homes, jointly sponsored by the AMA and the American Nursing Home Association.

Adopted the recommendations of the Committee to Study to Joint Commission on the Accreditation of Hospitals and suggested that the committee's report be distributed to constituent and component societies and hospital chiefs of staff.

Approved an alteration in the Association Bylaws which states: "The Council on Medical Education and Hospitals shall consist of 10 Active or Service members at least one of whom shall be a private practitioner of medicine who is not a faculty member of a medical school nor a member of a staff of a hospital associated with a medical school or university," barely beating an amendment on the floor, making it read "at least four of whom. . . ."

Commended the American Farm Bureau for its vigorous leadership in opposing unwarranted government interference and regulation.

Urged the widest dissemination to AMA members of a joint report by the AMA Council on Mental Health and the National Academy of Sciences-National Research Council on the Use of Narcotic Drugs in Medical Practice and the Medical Management of Narcotic Addicts.

Recommended that all AMA members and affiliates give strong support to the national tuberculin testing campaign proposed by the American School Health Association.

Directed the Speaker of the House to appoint an ad hoc committee to study the size, make-up and functions of the House of Delegates, its councils, sections and committees and to report its findings in June 1964.

Opening Session

Dr. George M. Fister of Ogden, Utah, retiring AMA president, told the opening session that "our fight against federal dictation is not merely one of concern only to physicians and their freedom to practice the best medicine possible, but it also concerns, equally or more so, the individual citizen, all professions and the private enterprise system in this country." Awards announced were the AMA Scientific Achievement Award to John F. Enders, Ph.D. of Boston, and the Joseph Goldberger Award in Clinical Nutrition to Dr. John B. Youmans of New York City.

Wednesday Session

Speaking at the Wednesday session, Dr. Annis declared that "now, more than ever before, there is an obligation for all of us to waive or at least to minimize any differences between or within regions, specialties or organizations and to stand together on fundamental principles of medical care and medical practice, of enterprise and of freedom for which our great Association has striven in the last 116 years."

Election of Officers

In addition to Dr. Welch, the new president-elect, the following officers were named at the closing session on Thursday:

Dr. D. F. Ward of Dubuque, Iowa, vice president; Dr. Milford O. Rouse of Dallas, Texas, speaker of the House, and Dr. Walter C. Bornemeier of Chicago, vice speaker.

Dr. Percy Hopkins of Chicago and Dr. Raymond M. McKeown of Coos Bay, Oregon, were reelected to the Board of Trustees for three year terms. Dr. Robert C. Long of Louisville, Kentucky, was named to fill the one year remaining in the term of Dr. Hugh H. Hussey, who resigned to become director of the AMA Division of Scientific Activities.

Missouri delegates and MSMA officers held a breakfast caucus.

Elected to the three new posts on the Board, created by the House action on Wednesday, were Dr. Dwight Wilbur of San Francisco, three years; Dr. Lester Bibler of Indianapolis, two years, and Dr. L. O. Simenstad of Osceola, Wisconsin, two years.

Nominated and elected to the Judicial Council was Dr. Walter Judd of Minneapolis, physician, former member of Congress and 1961 winner of the AMA Distinguished Service Award.

For the Council on Constitution and Bylaws, Dr. William D. Stovall of Madison, Wisconsin, was reelected, and Dr. Thurman B. Givan of

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Brooklyn, New York, was named to replace Dr. Bornemeier.

Elected to the Council on Medical Education and Hospitals were Dr. E. Bryce Robinson Jr. of Fairfield, Alabama; Dr. Francis L. Land of Fort Wayne, Indiana, and Dr. Melvin Breese of Portland, Oregon.

To fill vacancies in the Council on Medical Service, the House elected Dr. Burns A. Bobbins Jr. of Fort Lauderdale, Florida; Dr. Irvin E. Hendryson of Denver, Colorado, and Dr. Jess W. Read of Tacoma, Washington.

The mood of the House of Delegates at this 112th Annual Meeting of the AMA was somewhat difficult to define. It insisted on its prior actions concerning expansion of the Board of Trustees and assigned duties of the board and councils. There were a number of spirited debates in reference committees as well as on the floor of the House on major issues. The Missouri delegation introduced three resolutions—one having to do with intern training program requirements relating to the 25 per cent house staff rule requiring that 25 per cent of the house staff be composed of American and Canadian medical school graduates; the second one having to do with "compensation of interns and residents"; and the third dealing with the subject, "lifetime learning for physicians" program.

A resolution was introduced by the Maryland delegation asking what action had been taken by the Board of Trustees on the Missouri delegation resolution relating to the composition of the Council on Medical Education and Hospitals introduced in the June 1962 AMA House of Delegates session. The resolution also insisted that the Board of Trustees carry out the House of Delegates desires in this matter. This particular resolution was not adopted in view of a substitute recommendation by the reference committee.

It would seem therefore from the actions of the House of Delegates that these resolutions introduced by the Missouri delegation had definite effect upon the outcome of the actions taken by the House pertaining to the matters described by these resolutions.

The official delegation expressed hope for better facilities wherein to properly forefront Missouri in years to come. Simultaneously it expressed thanks to Ray McIntyre, Thomas Fox and Gary Schnedler (Executive Director, Greene County Medical Society) for tireless help and excellent suggestions. We missed Tom O'Brien who "tended store," during the closing days of the Missouri State Assembly in Jefferson City, Missouri.

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Kenneth C. Hollweg, M.D.

President's Message

The need for the physician to take an active part in legislative matters toward the prevention of socialism through welfarism is constantly stressed by the AMA, the MSMA and AMPAC and MMPAC.

At the 19th annual meeting of the Conference of Presidents and Other Officers of State Medical Associations just preceding the recent AMA session, Walter Petravage, Manager of the Public Affairs Department of the United States Chamber of Commerce, outlined four ways in which MDs can be effective in preserving free enterprise. They were:

By becoming members of their state and national medical political action committees; by studying politics; by recruiting every possible ally, particularly their wives, and by their financial support.

This is good advice and I hope that each member of MSMA will take this to heart and follow Mr. Petravage's suggestions.

Kenneth C. Hollweg MD

EDITORIAL

CLOTTING MECHANISM

Recent events in the field of blood coagulation have made great strides in simplifying basic testing of the different stages of the coagulation mechanism. This has proceeded to the extent that it behooves the clinical physician to periodically review current concepts to insure adequate interpretation of the reported results.

The basic concepts are actually quite simple despite the tendency of the literature to make it otherwise, and a firm understanding of certain basic principles will allow the physician to order and interpret the proper laboratory procedures.

The first stage of this "coagulation rocket" is comprised of activation of thromboplastic. The "blast off" of this homeostatic mechanism is initiated by platelet destruction. It is this first stage that may be altered by congenital abnormalities. Thromboplastin is comprised of several ingredients and if one of these is either absent or altered, the thromboplastic is thus inadequate for proper clotting. Thus the several forms of hemophilia are sought in testing this primary stage. This is the area in which recent studies and simple methods of testing have produced a screening test of remarkable accuracy—the partial thromboplastin time—which can be done in any routine laboratory in a few minutes. In the event an abnormal result is found, further testing can be done to delineate the specific abnormality.

The second stage of the "coagulation rocket" involves the conversion of prothrombin to thrombin by the activated thromboplastin. Here, the simple prothrombin time is used to delineate the normality, not only of prothrombin, but also factors 5, 7, Stuart factor and fibrinogen.

The third and final stage is the conversion of fibrinogen to the fibrin clot. This can be tested either by direct determination of the quality of fibrinogen by a simple and accurate method available in any laboratory, or by simply adding topical thrombin (fibrindex test) to blood which fails to clot, and will elicit immediate clotting in the event this one missing element is thereby added.

Other factors which may affect the clotting are those concerned with capillary function and acquired enzymatic factors producing lysis of certain of the elements of clotting which the patient is actively producing. Also abnormal anticoagulants may be produced to inhibit normal clotting function. Thus a normal clotting mechanism is easily confirmed or abnormal results interpreted by the following steps:

(1) History of normal clotting with previous surgery and dental extractions often rule out significant congenital abnormalities of the clotting mechanism.

(2) Rumple-Leed's test is done to insure adequate capillary function and platelet quantity.

(3) Lee White coagulation time is obtained with further observation of the clot for evidence of retraction and lysis while maintained at 37 C. up to a period of six hours. The now archaic capillary coagulation time was often misleading and therefore contraindicated as a testing device for coagulation time. Should abnormalities occur in the Lee White clotting observation these can further be delineated by simple but life-saving procedures done at the bedside. The bleeding patient whose Lee White clotting time shows normal clotting followed by clot lysis can be further substantiated as due to fibrinolysis by adding equal parts of the patient's blood to a normal clot and observing lysis of the control. Also, the presence of a powerful anticoagulant with heparin-like activity may prevent the patient's blood from clotting at all, and thus necessitating distinction from afibrinogenemia. This can be done by mixing equal amounts of the affected blood with normal and observing the prevention of clotting when the anticoagulant is present, while allowing normal clotting when the abnormality was due to afibrinogenemia.

Thus, this simple test is a check regarding abnormal circulating anticoagulants, adequate platelet function and will rule out significant lysis of fibrin as well as afibrinogenemia.

(4) The Ivy bleeding time is easily done and will add verification of platelet and capillary function.

(5) The prothrombin time is done for verification of a normal second and third stage of coagulation.

(6) The platelet count.

(7) The partial thromboplastin time is done to evaluate the normality, primarily, of the first stage of clotting. This test is now well standardized and can be available in any routine laboratory and is now well accepted to accurately evaluate the first stage of clotting with an extremely high percentage of accuracy.

Thus a basic concept of the clotting mechanism insures confidence in the clinician to order and interpret the proper laboratory procedures as well as administer swift and accurate therapy.

Robert K. Skillman, M.D.

Ramblings of the Field Secretary

More than 400 people attended a "Symposium on Modern Trends in Therapy" sponsored by the St. Louis Academy of General Practice with assistance from Lederle Laboratories on Sunday, May 5, at the Chase Hotel in St. Louis. This outstanding program beginning at 10.00 a.m. and closing at 5:30 p.m. is acceptable for six hours of Category I PG Credit by the AAGP. A special feature of the day's session was the luncheon for physicians and wives at which the featured speaker was H. M. Hardwicke, M.D., Acting Director of the Missouri Division of Health. Dr. Hardwicke spoke on "The Future of Medical Practice in Missouri," and received a standing ovation from the audience at the close of his presentation. Speakers on the scientific program included Lena Levine, M.D., New York; Beverley T. Mead, M.D., Lexington, Ky.; Martin Hoffman, M.D., Montreal, Quebec, Canada; Jose L. Garcia Oller, M.D., New Orleans, La.; Jeanne C. Bateman, M.D., Washington, D. C.; and Philip Thorek, M.D., Chicago, Illinois.

Dr. Wyatt introduced the luncheon speaker, Dr. Hardwicke.

Doctors' wives also attended the scientific session.

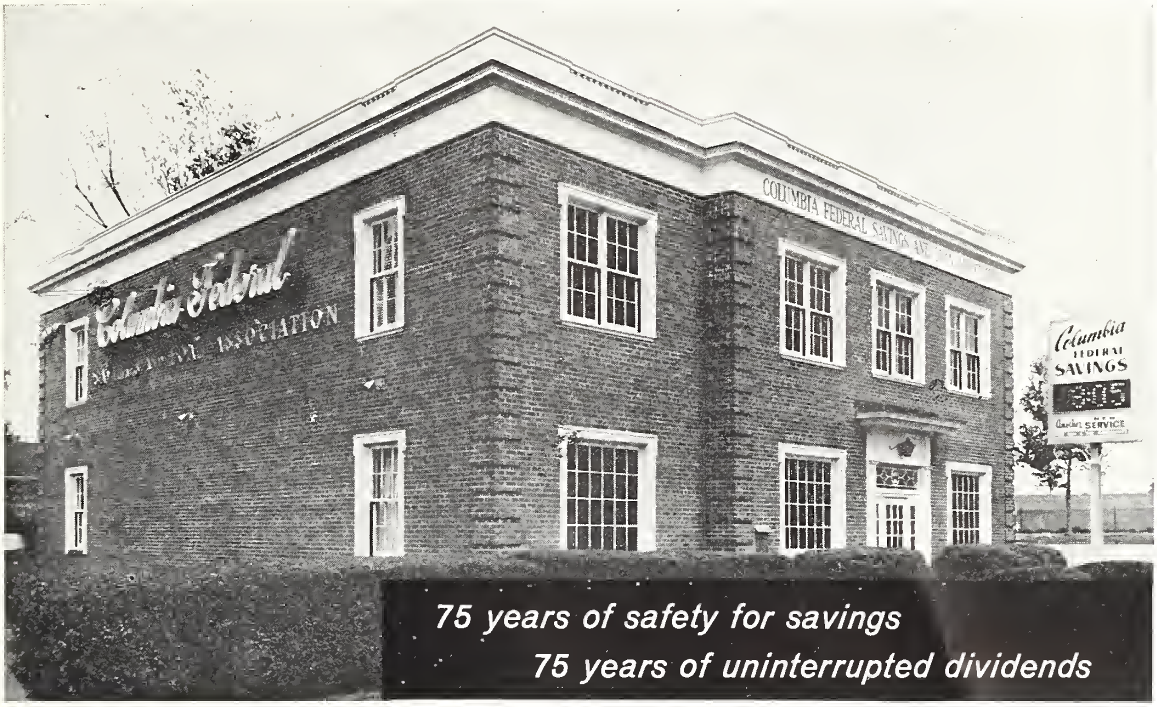
Lois C. Wyatt, M.D., President of the St. Louis Academy, opened the meeting and presided at the luncheon session. The final activity on the day's program was a reception on the Star Light Roof from 5:30 p.m. to 6:30 p.m. through the courtesy of Lederle Laboratories.

★ ★ ★

The Jasper County Medical Society held a dinner-dance at Joplin's Twin Hills Golf and Country Club for members and their wives on Tuesday night, May 14. Some 60 people attended this gala affair which also included the installation of the new Society officers. Unfortunately, Dr. Gregory Schulte, the retiring president, was unable to be present. However, the new incoming vice president, Dr. Harry K. Wieman, substituted ably for him. Dr. M. Foster Whitten of

Dr. Wieman (right) received plaque for Dr. Schulte from Dr. Whitten.

The program followed a dinner.



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Carthage was installed as President, Dr. Harry K. Wieman of Joplin, Vice President; Dr. John D. Maddox of Joplin, President-Elect; Dr. David O. Allen of Joplin, Secretary; and Dr. Samuel Holtzman of Joplin, Treasurer. As his first official duty, President Whitten presented the Society's plaque of appreciation for service to the retiring President, Dr. Schulte. In the absence of Dr. Schulte, the plaque was received by Dr. Wieman. This is the second year the Society's plaque has been given to the retiring president.

Following the installation, Dr. Whitten gave a short address emphasizing the great responsibilities today confronting the medical profession in trying to preserve the freedom of medical practice and stressed the many opportunities offered doctors of medicine to accept leadership assignments in local, state and national activities. As a part of the program proper, Dr. B. E. DeTar was called upon to lead a short memorial service for deceased members of the Society.

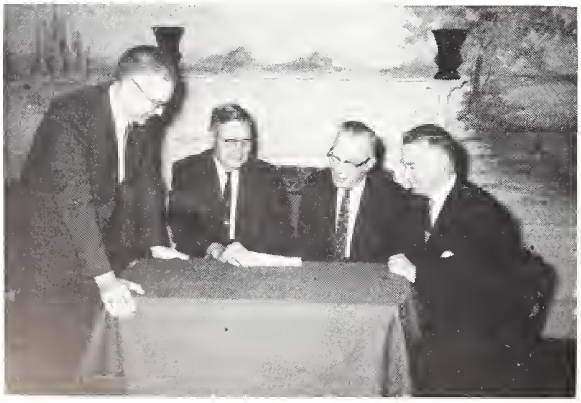
* * *

The Eighth Annual Spring Clinical Conference sponsored by the University of Missouri School of Medicine and extension division in cooperation with the MAGP, was held at the medical center May 16 and 17. The program for the two day session encompassed "Immunity, Hypersensitivity and Disease." Speakers who appeared on the program included members of the medical school faculty and a number of out of state. This program is acceptable for 11¼ hours of Category I PG Credit by the AAGP.

* * *

On Sunday, May 26, during the weekend meeting of the Council of the MSMA, a $1,000.00 gift from the St. Louis County Medical Society was presented to the Missouri State Medical Foundation. This gift, a check, was presented to Dr. Leonard T. Furlow, President of the Foundation and President-Elect of the MSMA, on behalf of the St. Louis County Medical Society by Dr. Paul Whitener, Councilor of the Fourth District of the MSMA. In presenting this $1,000.00 contribution, Dr. Whitener said that the St. Louis County Medical Society is happy to help in the worthwhile work the Foundation is doing.

Dr. Robert A. Mayer, President of the St. Louis County Medical Society, was present to observe the presentation.



Drs. Mayer, Whitener, Furlow and Hollweg view the $1,000 check presented by the St. Louis County Medical Society to MSMF.

ACADEMY

(Continued from page 748)

Committee on Rural Medical Service. Following this interesting, down-to-earth symposium, the Chairman of the Council of the MSMA, Dr. Byron Stuart, Boonville, spoke to the group on organized medicine. He explained the functions of county and state medical societies and those of the AMA. Various programs and projects of the MSMA were well discussed by Dr. Stuart. He urged all of the junior medical students to eventually become members of their respective medical societies and to take an active part in shaping the future of medicine.

The next speaker on the formal program was Dr. Walter T. Gunn, St. Louis, President of the MAGP. Dr. Gunn discussed the formation of the AAGP along with its objectives, purposes and programs. He pointed out the sound, basic requirement of continued postgraduate training for members in the Academy and listed many values of membership in the Academy. In addition, he stressed the many advantages in selecting the field of general practice.

The final speaker of the session was Dr. P. C. Hall, St. Louis, Chairman of the Membership Committee of the MAGP. In his special way, Dr. Hall presented his usual "strong pitch" to the students to select general practice for their future professional activities.

Dr. Campbell in closing the session stated that those who had participated on the program would be glad to stay after the meeting and discuss informally any questions which the audience might like to pursue. A good number of the students took advantage of this offer and remained to discuss special points of interest to them concerning the field of general practice, training for, and opportunities for locations.

Members of the Academy who were present on this occasion have all expressed complimentary remarks as to the value of this particular session as well as the recommendation that similar sessions be promoted in the future.

News—Personal and Professional

A reception and dinner were held June 29 honoring **Cyrus E. Burford,** M.D., St. Louis, for 58 years of service as a physician and surgeon at Bethesda General Hospital, St. Louis.

On May 18, **Joseph B. Kendis,** M.D., St. Louis, spoke on "Alcoholism" before a meeting of the State Clinics of Virginia at Virginia Medical College.

Early in June a "retirement" dinner party was held by the Independence Hospital Nurses' Alumnae Association honoring two brothers, **John R. Green,** M.D., and **Stanley L. Green,** M.D., Independence. Dr. Stanley Green has retired but Dr. John R. Green is still doing some office practice.

"The Urethrorectal Syndrome" was the subject of a paper presented by **Mark M. Marks,** M.D., Kansas City, at a meeting of the American Proctologic Association in San Francisco.

At the IV International Congress on School and University Hygiene and Medicine, held in Rome, Italy, May 27 to 31, **Sigmund Gundle,** M.D., Kansas City, presented two papers and led a round table discussion.

The appointment of **Reber M. Van Matre,** M.D., St. Louis, as chief of the psychiatric section of the training branch, National Institute of Mental Health, Bethesda, Md., has been announced.

On May 11 a luncheon was held by the Lora McLain Circle, Oran, to help **T. T. O'Dell,** M.D., Oran, celebrate his 89th birthday. The newspaper carried a picture and a story of the life of Dr. O'Dell.

Speaker at the Optimist Club of Lee's Summit late in April was **John A. Griffith Jr.,** Kansas City, who spoke on "Medical Care for the Aged."

The St. Louis College of Pharmacy Alumni Association presented its Annual Award for outstanding community service through medical activities to **Ralph A. Kinsella Sr.,** M.D., St. Louis, on May 25.

The *Medical Tribune* of April 14 quoted from "G U Curettings" which is written by **John Martin,** M.D., St. Joseph, for *Buchanan County M.D.*

The W. Scott Johnson Award was presented by the Missouri Public Health Association to **C. W. Meinershagen,** M.D., Jefferson City, at its recent meeting. The award is for outstanding contribution to public health in Missouri.

Speaking at the International College of Surgeons in Los Angeles late in April, **Paul N. Johnstone,** M.D., Kansas City, discussed "Acute Ischemic Renal Failure and Its treatment with Specific Drugs."

The staff of the Bothwell Memorial Hospital, Sedalia, reelected **J. W. Boger,** M.D., Sedalia, as chief of staff. Serving with Dr. Boger will be **Robert H. Stewart,** M.D., Sedalia, as vice chief of staff.

At a meeting of the Missouri Heart Association in late May **Guy D. Callaway Jr.,** M.D., Springfield, was elected president, with **James A. Kinder,** M.D., Cape Girardeau, president-elect. **Daniel B. Landau,** M.D., Hannibal, was elected vice president, and **Lucien W. Ide,** M.D., St. Joseph, was elected secretary.

Among 35 American surgeons who took part in a postgraduate course in nasal surgery at the University of Leiden, the Netherlands, in July, honoring the memory of Dr. Hermann Boerhaave (1668-1738) who initiated patient bedside instruction were **Pat A. Barelli,** M.D., Kansas City, and **Daniel D. Klaff,** M.D., and **Joseph W. West,** M.D., St. Louis.

At a recent meeting of the Kansas City Southwest Pediatric Society **Richard D. Blim**, M.D., was elected president; **Roy F. Garrison**, M.D., vice president, and **Thomas E. Draney**, M.D., secretary-treasurer.

The American College of Chest Physicians at a meeting in Atlantic City in June elected **Alfred Goldman**, M.D., St. Louis, president-elect. **David N. Kerr**, M.D., St. Louis, was reelected governor for the State of Missouri.

The annual Janeway Lecture of the American Radium Society was presented at the annual meeting of the society in San Francisco by **Axel N. Arneson**, M.D., St. Louis. His subject was "Long Term Observations in the Treatment of Endometrial Cancer."

New officers of the St. Louis University Alumni Association, recently elected, are **Louis Keller**, M.D., president; **Hubert A. Ritter**, M.D., president-elect; **James L. Donahoe**, treasurer, and **A. M. Ahern**, M.D., secretary.

Washington University Medical Alumni Association recently elected **Heinz Haffner**, M.D., president-elect; **Robert W. Kelley**, M.D., vice president, and **Richard V. Bradley**, M.D., was reelected secretary-treasurer.

A recent addition to the Ladue Public School Board is **H. E. Oppenheimer**, M.D., Clayton.

The Social Health Association of Greater St. Louis, recently named **M. Norman Orgel**, M.D., St. Louis, as president.

Early in June **Paul A. Knepper**, M.D., St. Joseph, presented a paper on "The Surgical Problems of Jejunal Diverticulosis" at the Evanston Hospital Alumni Association in Evanston, Ill.

The Kansas City Industrial Medical Association has installed **Cecil G. Leitch**, M.D., Blue Springs, as president. **Carroll P. Hungate**, M.D., Kansas City, was elected president-elect, and **William B. McCunniff**, M.D., secretary-treasurer.

The medical staff of Research Hospital, Kansas City, installed **Russell D. Shelden**, M.D., as president at the annual meeting. **Joseph C. Williams Jr.** was elected president-elect; **Ira C. Layton**, M.D., secretary, and **William Y. Eubank**, M.D., treasurer.

New Members

Philip C. Anderson, M.D., 807 Stadium Road, Columbia, has become a member of Boone County Medical Society. Dr. Anderson is a native of Grand Rapids, Mich., received his preliminary education at the University of Michigan, and his M.D. degree at the University of Michigan in 1955. He specializes in dermatology.

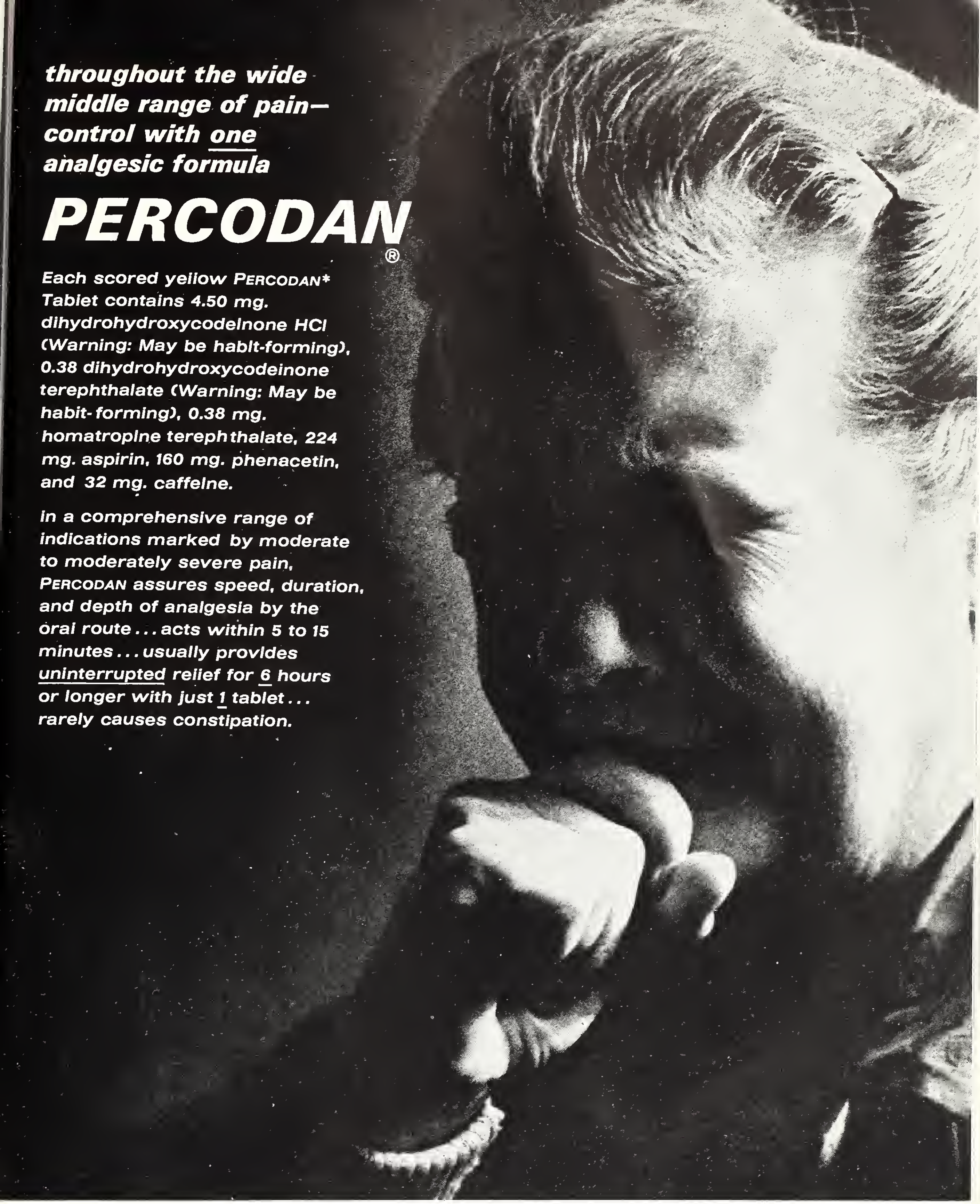
Joseph J. Babka, M.D., 4953 Potomac Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Babka is a native of St. Louis, Mo., received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1958. He specializes in surgery.

Keim L. Baird, M.D., 7301 St. Charles Rock Road, St. Louis, has become a member of St. Louis County Medical Society. Dr. Baird is a native of Dyersburg, Tenn., received his preliminary education at the University of Tennessee, and his M.D. degree at the University of Tennessee in 1958. He specializes in psychiatry.

Clarence M. Benage, M.D., 8604 White Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Benage is a native of Conway, Mo., received his preliminary education at the University of Missouri, and his M.D. degree at Washington University in 1958. He specializes in surgery.

Robert E. Boucher, M.D., 5907 Suson Place, St. Louis, has become a member of St. Louis Medical Society. Dr. Boucher is a native of Penacook, N. H., received his preliminary education at St. Ansel Medical College, and his M.D. degree at St. Louis University in 1961. He specializes in radiology.

John D. Bouhasin, M.D., 138 N. Meramec Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Bouhasin is a native



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of St. Louis, Mo., received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1957. He specializes in pediatrics.

Robert E. Bregant, M.D., 6 West Drive, Columbia, has become a member of Boone County Medical Society. Dr. Bregant is a native of Witt, Ill., received his preliminary education at Central Methodist College, and his M.D. degree at St. Louis University in 1959. He specializes in internal medicine.

Jane B. Cadbury, M.D., 123 Adams St., St. Louis, has become a member of St. Louis County Medical Society. Dr. Cadbury is a native of Canton, China, received her preliminary education at Wellesley College, and her M.D. degree at Yale University in 1943. She specializes in pediatrics.

Victor M. Carnes, M.D., Medical Arts Bldg., Joplin, has become a member of Jasper County Medical Society. Dr. Carnes is a native of Independence, Mo., received his preliminary education at Harvard University, and his M.D. degree at Washington University in 1955. He specializes in pathology.

Henry W. Clever Jr., M.D., 114 N. Main St., St. Charles, has become a member of Lincoln-St. Charles County Medical Society. Dr. Clever is a native of St. Louis, Mo., received his preliminary education at St. Louis University, and his M.D. degree at Missouri University in 1960. He specializes in pediatrics.

Asa A. Crow, M.D., Cardwell, has become a member of Dunklin County Medical Society. Dr. Crow is a native of Hamilton, Ala., received his preliminary education at Arkansas State University, and his M.D. degree at the University of Arkansas in 1961. He specializes in general practice.

William Ford, M.D., 34 Tanglewood Court, Farmington, has become a member of the Mineral Area Medical Society. Dr. Ford is a native of Glenwood, Mo., received his preliminary education at the University of Missouri, and his M.D. degree at the University of Pennsylvania in 1925. He specializes in general practice.

Richard A. Fraser, M.D., 5535 Delmar Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Fraser is a native of Bonne Terre, Mo., received his preliminary education at the University of Missouri, and his M.D. degree at the University of Missouri in 1962.

Earl E. Gilfillan, M.D., Memphis, has become a member of Lewis-Clark-Scotland County Medical Society. Dr. Gilfillan is a native of Henry County, Iowa, received his preliminary education at the University of Iowa, and his M.D. degree at the University of Iowa in 1931. He specializes in internal medicine.

Donald E. Ginardi, M.D., 4643 Wyandotte St., Kansas City, has become a member of Jackson County Medical Society. Dr. Ginardi is a native of Kansas City, Missouri, received his preliminary education at the University of Kansas, and his M.D. degree at the University of Kansas in 1959. He specializes in internal medicine.

Robert S. Goell, M.D., 5027 Westminster Place, St. Louis, has become a member of St. Louis Medical Society. Dr. Goell is a native of New York, N. Y., received his preliminary education—A.B., Middlebury College and A.M., University of Pennsylvania, and his M.D. degree at Washington University in 1960. He specializes in obstetrics.

Arnold M. Goldman, M.D., 634 N. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Goldman is a native of St. Louis, Mo., received his preliminary education at Harvard University, and his M.D. degree at Washington University in 1959. He specializes in internal medicine.

James J. Hasenmueller, M.D., 601 S. Brentwood Blvd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Hasenmueller is a native of Davenport, Iowa, received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1956. He specializes in surgery.

William G. Hemenway, M.D., 807 Stadium Road, Columbia, has become a member of Boone County Medical Society. Dr. Hemenway is a native of Saskatchewan, Canada, received his preliminary education at the University of Saskatchewan, and his M.D. degree at the University of Manitoba in 1945. He specializes in otolaryngology.

Warren Z. Jacobsohn, M.D., 1287 Laughren Drive, St. Louis, has become a member of St. Louis Medical Society. Dr. Jacobsohn is a native of St. Louis, Mo., received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1959. He specializes in internal medicine.

Morris B. Johnson, M.D., 1102 130th St., Grandview, has become a member of Jackson

County Medical Society. Dr. Johnson is a native of Lemmon, S. D., received his preliminary education at the University of North Dakota, and his M.D. degree at the University of Nebraska in 1952. He specializes in internal medicine.

Joseph Kanarek, M.D., 751 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Kanarek is a native of Plock, Poland, received his preliminary education at Columbia University, and his M.D. degree at Universidad Nacional Autonoma de Mexico in 1959. He specializes in pediatrics.

Sheldon Kessler, M.D., 390 W. St. Anthony Lane, Florissant, has become a member of St. Louis County Medical Society. Dr. Kessler is a native of Brooklyn, N. Y., received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1951. He specializes in pediatrics.

Samuel Lugo, M.D., 1204 Gilbert Ave., St. Louis, has become a member of St. Louis Medica Society. Dr. Lugo is a native of Phoenix, Ariz., received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1958. He specializes in surgery.

Paul M. Nonkin, M.D., 390 W. St. Anthony Lane, Florissant, has become a member of St. Louis County Medical Society. Dr. Nonkin is a native of Newark, N. J., received his preliminary education at New York University, and his M.D. degree at New York University in 1954. He specializes in internal medicine.

Hassan Nouri, M.D., 7309 Coronado Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Nouri is a native of Damascus, Syria, received his preliminary education at Syrian University, and his M.D. degree at Syrian University in 1957. He specializes in obstetrics.

Robert C. Packman, M.D., 4652 Maryland Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Packman is a native of St. Louis, Mo., received his preliminary education at Washington University, and his M.D. degree at Washington University in 1956. He specializes in internal medicine.

James C. Peden Jr., M.D., 8332 Delcrest Drive, St. Louis, has become a member of St. Louis Medical Society. Dr. Peden is a native of Tulsa, Okla., received his preliminary education at Haverford University, and his M.D. degree at Washington University in 1955. He specializes in internal medicine.

Richard T. Quick, M.D., 6178 Westminster Place, St. Louis, has become a member of St. Louis Medical Society. Dr. Quick is a native of St. Louis, Mo., received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1959. He specializes in psychiatry.

Gus R. Ridings, M.D., 810 Yale Ave., Columbia, has become a member of Boone County Medical Society. Dr. Ridings is a native of Arbyrd, Mo., received his preliminary education at Arkansas State University, and his M.D. degree at Vanderbilt University in 1950. He specializes in radiology.

Thomas A. Schneider, M.D., 1024 Jefferson St., St. Charles, has become a member of St. Louis Medical Society. Dr. Schneider is a native of St. Charles, Mo., received his preliminary education at Laras College, and his M.D. degree at St. Louis University in 1958. He specializes in surgery.

Jack I. Smith, M.D., 801 S. Brentwood Blvd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Smith is a native of Dayton, Ohio, received his preliminary education at Miami University, and his M.D., degree at Cincinnati University in 1945. He specializes in preventative medicine.

William W. Sullivan, M.D., 8215 Eads Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Sullivan is a native of Gilroy, Calif., received his preliminary education at Pomona College, and his M.D., degree at Washington University in 1959. He specializes in internal medicine.

Neil C. Terhune, M.D., 104 E. 2nd St., Holden, has become a member of Johnson County Medical Society. Dr. Terhune is a native of North Platte, Neb., received his preliminary education at the University of Nebraska, and his M.D. degree at the University of Nebraska in 1951.

Julius G. Viraghty, M.D., 307 S. Euclid Ave., St. Louis, has become a member of St. Louis County Medical Society. Dr. Viraghty is a native of Violozsvar, Hungary, received his preliminary education at the College of E & R, and his M.D. degree at Royal University of Sciences in 1927. He specializes in anesthesiology.

Janice L. Willms, M.D., 5525 Enright Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Willms is a native of Twin Falls, Idaho, received her preliminary education at the University of Idaho, and her M.D. degree at Washington University in 1961. She specializes in neurology.

Roy E. Wilson, M.D., 1211 S. Glenstone St., Springfield, has become a member of Greene County Medical Society. Dr. Wilson is a native of Obion County, Tenn., received his preliminary education at Abilene College, and his M.D. degree at the University of Texas in 1952. He specializes in psychiatry.

Robert M. Woolsey, M.D., 6188 McPherson Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Woolsey is a native of Chicago, Ill., received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1957. He specializes in neurology.

DEATHS

Hutton, Joseph L., M.D., St. Louis, a graduate of Barnes Medical College, 1911; member of St. Louis Medical Society; aged 77; died April 19, 1963.

Hite, Henry A., M.D., Greenridge, a graduate of Marion-Sims-Beaumont College, 1902; member of Pettis County Medical Society; aged 86; died April 22, 1963.

Grybinas, Vytautas J., M.D., Belleville, Ill., a graduate of the University of Kaunas and Maxim University, Munich, Germany, 1948; member of St. Louis Medical Society; aged 44; died April 26, 1963.

Loewy, Louise B., M.D., Kansas City, a graduate of the University of Vienna, 1921; member of Jackson County Medical Society; aged 68; died May 3, 1963.

Johns, George A., M.D., Pikesville, Md., a graduate of St. Louis University, 1905; member of Saline County Medical Society; aged 83; died May 7, 1963.

Schnoebelen, Paul C., M.D., St. Louis, a graduate of St. Louis University, 1916; member of St. Louis Medical Society; aged 73; died May 13, 1963.

Casford, Ralph S., M.D., Kansas City, a graduate of the University of Kansas, 1924; member of Jackson County Medical Society; aged 78; died May 13, 1963.

Chiarottino, Joseph H., M.D., St. Joseph, a graduate of Creighton University, 1935; member of Buchanan County Medical Society; aged 57; died May 16, 1963.

Ketron, Marvin B., M.D., Kansas City, a graduate of Emory University, 1909; member of Jackson County Medical Society; died May 17, 1963.

Stone, Charles A., M.D., Calverton Park, a graduate of Washington University, 1908; member of St. Louis Medical Society; aged 80; died May 19, 1963.

Price, Robert P., M.D., St. Joseph, a graduate of the University of Kansas, 1909; member of Callaway County Medical Society; aged 79; died May 27, 1963.

Marshall, Wilbur J., M.D., Springfield, a graduate of Indiana University, 1926; member of Greene County Medical Society; aged 63; died May 29, 1963.

Smith, William A., M.D., Somerton, Ariz., a graduate of Washington University, 1910; member of St. Louis County Medical Society; aged 78; died May 30, 1963.

Belot, Monti L., M.D., Parkville, a graduate of Kansas Medical College, 1910; member of Jackson County Medical Society; aged 77; died May 30, 1963.

Payne, Bryan T., M.D., Lexington, a graduate of Homeopathic Medical College, 1906; member of Lafayette-Ray County Medical Society; aged 79; died June 3, 1963.

Simon, Selig, M.D., St. Louis, a graduate of St. Louis College of Physicians and Surgeons, 1902; member of St. Louis Medical Society; aged 86; died June 7, 1963.

Dorris, Richard P., M.D., Jefferson City, a graduate of Washington University, 1917; member of Cole County Medical Society; aged 68; died June 8, 1963.

Clancy, Joseph Jr., M.D., Osceola, a graduate of St. Louis University, 1961; member of West Central Missouri Medical Society; aged 33; died June 12, 1963.

Westrup, Arthur W., M.D., St. Louis, a graduate of Washington University, 1910; member of St. Louis County Medical Society; aged 79; died June 18, 1963.

Rinkel, Herbert J., Shawnee Mission, Kan., a graduate of Northwestern University, 1926; member of Jackson County Medical Society; aged 67; died June 20, 1963.

James, William M., M.D., St. Louis, a graduate of Washington University, 1926; member of St. Louis Medical Society; aged 64; died June 26, 1963.

The Council

The Council met at Chase Hotel, St. Louis, May 25, 26, 1963, with Byron M. Stuart, M.D., Boonville, Chairman, presiding. Those present were Drs. Stuart, Joseph L. Fisher, St. Joseph; James M. Macnish, St. Louis; Paul R. Whitener, St. Louis; O. B. Barger, Harrisonville; Hector W. Benoit Jr., Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell, Kenneth C. Hollweg, Kansas City; Leonard T. Furlow, St. Louis; John I. Matthews, Jefferson City; Charles R. Doyle, St. Louis; Vernon E. Wilson, Columbia; H. M. Hardwicke, Jefferson City; A. W. Neilson, St. Louis; B. J. Bass, Salem; William D. Mayer, Columbia; Messrs. Arne Larson, Chicago; George Curry, Lebanon; Hollister Smith, Edgar Mothershead, St. Louis; William H. Bartleson, Fred Mowry, Kansas City; Gary Schnedler, Springfield; Lemoine Skinner, Jordan Singleton, Vincent Sanders; Ray McIntyre; Tom P. Fox, T. R. O'Brien, and Miss Peggy Heilig, St. Louis.

Secretary's Report

Mr. O'Brien reported a letter of thanks received from the Student AMA for the contribution and charter membership.

He also reported that a letter was received from the Medicare office in Washington, D. C., notifying that Major General James H. Forsee had been appointed Executive Director of the Medicare program. General Forsee is a graduate of Missouri and Washington University Schools of Medicine.

Mr. O'Brien reported that the annual checks from AMA-ERF were received and were distributed to the three deans at a luncheon at which Dr. Furlow presided. The University of Missouri School of Medicine received $8,983.50; Washington University School of Medicine received $19,300.99; and St. Louis University School of Medicine received $20,806.49.

Intravenous Therapy

The following ruling from the Attorney General's office in regard to intravenous therapy was received from the Missouri State Board of Nursing, with a request that it be published in Missouri Medicine:

"Recently the Missouri Board of Nursing received the following information from Attorney General Thomas Eagleton regarding question as to whether registered professional nurses or practical nurses may administer fluids intravenously. Members of the Board of Nursing recommended that, if possible, this information be included in the publication of your association so that it will be available to hospital administrators, physicians, nurses and others interested in the functions of the registered professional nurse and licensed practical nurse.

"We have carefully considered this question and it is our opinion that a registered professional nurse who is qualified by experience or training is legally authorized to administer fluids such as glucose, saline solutions, vitamins, Ringer's solution, distilled water, amino acids and antibiotics intravenously by needle puncture when this is done under the direction or supervision of a licensed physician.

"Performance of this procedure under the supervision and direction of the physician does not necessarily require the immediate physical presence of the physician. It is our opinion that the registered professional nurse if performing this procedure under the supervision and direction of the physician if it is performed pursuant to and in accordance with a proper order for this treatment and if the physician is available to receive or dispense information concerning the initiation and continuation of the procedure. It is further our opinion that practical nurses are not authorized by law to administer fluids intravenously."

The Council approved this request.

Legislation

Mr. O'Brien presented a report on the current status of pending State legislation.*

MSMF

Dr. Furlow gave a report on the financial standing of the Foundation and stated that $21,374.97 was due the Foundation to date from the $7.50 assessment of the MSMA membership. This would bring the balance on hand to approximately $26,000. It was explained that this would not take care of the number of applications anticipated for the fall term. He reported that Dr. Benoit was elected to a five year term on the Board of Trustees at the annual meeting in Kansas City.

Mr. Skinner proposed that a meeting be arranged to invite the three deans of the medical schools, as well as a number of people responsible for foundations, in the hope that funds might be solicited for the Foundation, this meeting to be in the form of an evening get-together at some nice place. After discussion, it was decided to take no action on this proposal for the time being.

A check in the amount of $1,000 for the Foundation was presented to Dr. Furlow by Dr. Whitener from the St. Louis County Medical Society, and a check in the amount of $100 was received from Dr. English, Councilor from the 10th District. Dr. Stuart thanked both the St. Louis County Medical Society and Dr. English for their generous contributions.

MMPAC

Mr. O'Brien discussed the meeting of the Board of MMPAC at the time of the annual session and reported that Dr. Ralph Perry was reelected Chairman and Dr. James Sisk, Secretary-Treasurer. He also reported that several members of the Board of MMPAC and himself attended the AMA Legislative Conference in Chicago on May 18, 19.

AMA Department of Medicine and Religion

Mr. Arne Larson, Assistant Director, AMA Department of Medicine and Religion explained that this department was fairly new. About one and one half years ago the AMA established it to bring together physicians and clergymen of all faiths to discuss the areas of need in their local communities in which the two professions working together may be of service to one another and to the patient and his family. The Rev. Dr. Paul B. McCleave, a Presbyterian clergyman, serves as department director. He stated that pilot programs were conducted in the fall of 1962 and on the basis of these program results, the department is prepared to present program ideas and suggestions through the state associations that will promote a liaison between physicians and clergymen at the local level. It was suggested that committees be appointed by the county societies to implement this kind of program in each county in the state.

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* A recent report on legislation appears on page 744.

On motion of Dr. Furlow, duly seconded, it was decided to appoint a committee of the medical profession only, at the state level, to proceed along the lines outlined above.

Field Secretary's Report

Mr. McIntyre called attention to a number of meetings which had been held recently, in particular, the Medical Quackery Conference held in Jefferson City on May 1. He also attended the installation meeting of the Jasper County Medical Society in Joplin where 60 people were in attendance; an evening dinner meeting at the Whiteman Air Force Base to which area physicians and wives were invited with a total attendance of 176. On May 16, he attended a luncheon at the University of Missouri for the junior medical class which was jointly sponsored by the Missouri Academy of General Practice and MSMA. Fifty-five junior medical students attended the luncheon. He attended a meeting of the Board of Trustees of MAGP on May 16, also, in Columbia. On May 24, he attended a Regional meeting of State Medical Association Executives at the Kentucky State Medical Society in Louisville.

University of Missouri Appropriation Request

Dr. Wilson reported that the appropriation request for the University of Missouri, in Senate Appropriations Committee, will probably come on the floor the early part of this week. The appropriation is short $379,000 for the biennium. Dr. Stuart urged everyone to contact his State Senator as soon as possible for help in this matter.

1964 Annual Session Program

Dr. Matthews presented the report of the Committee on Scientific and Postgraduate Work which contained a tentative outline of the scientific program for the 1964 session.

After considerable discussion relative to various changes in the program, it was decided that these could be worked out by the Program Committee at a later meeting. On motion of Dr. Barger, duly seconded, it was agreed that the scientific program be deleted from the Wednesday agenda and that the Program Chairman make such changes he deems necessary at a later date.

Dr. Matthews then gave a résumé of the results of the questionnaire which was sent to the entire membership following the 1963 annual session. The total mailing was 3,850, of which 1,009 were returned by the cut-off date of May 20. This is a 26.2 per cent return. For those attending, 193 questionnaires were returned, for a 37.5 per cent response. For those not attending, 816 were returned, a 24.5 per cent response. More specialists than GP's attended from St. Louis, Kansas City and the outstate cities, with only the towns showing a predominance of GP's. The largest number of respondents stayed at the session for the entire four days. The next group, 28.6 per cent, stayed for three days, while 21.4 per cent attended for two days. The majority of respondents who made additional comments indicated that this was a successful, enjoyable program. In conclusion, in both the "attendance" and "content" areas, the result of this year's questionnaire are similar to the one of 1960. The profiles of the members attending both sessions would be almost the same. Little specific criticism was expressed, although the opportunity was certainly available.

Operation Hometown

The AMA film, "Operation Hometown," was shown to the Council. The film, with President-elect Edward Annis as narrator, explains the program of the AMA to defeat H.R. 3920, the King-Anderson bill.

Treasurer's Report

Dr. Doyle presented the Treasurer's report as of April 30, 1963, calling special attention to the loss of revenue due to the drop in advertising in Missouri Medicine. He stated that the income from advertising was far below estimated receipts for this time of year, and unless it picked up within the next few months, MSMA would be operating on a tight budget. On motion of Dr. Doyle, the report was accepted.

AMA Resolutions

Dr. Neilson read the following three resolutions to be presented to the AMA House of Delegates at its meeting in June, by the Missouri Delegation:

Intern Training Program Requirements

Whereas, The House of Delegates of the American Medical Association at the 1962 Clinical Session recommended to the Council on Medical Education and Hospitals that it give serious consideration to the disapproval of any hospital's intern training program if, for two successive years, less than 25 per cent of that hospital's total house staff were graduates of accredited United States or Canadian medicals schools, and

Whereas, Enforcement of such a rule would jeopardize the medical care in those non-affiliated hospitals which have good educational programs but have, for one reason or another, been unsuccessful in attracting a full quota of U. S. or Canadian medical school graduates, and

Whereas, The needs of the Federal government result in the continual withdrawing of house staff members who are graduates of U. S. schools, and

Whereas, It is the opinion of many members of the AMA House of Delegates, along with many AMA member physicians, that a hospital's training program should be judged on its merits, and not on the country of origin of the members of its house staff; therefore, be it

Resolved, That the House of Delegates of the American Medical Association rescind the cited recommendation to the Council on Medical Education and Hospitals.

Compensation of Interns and Residents

Whereas, Special and Supplementary Reports on Compensation of Interns and Residents were submitted by the Councils on Medical Education and Hospitals and on Medical Service at the November, 1962 Clinical Session of the House of Delegates of the American Medical Association for interim study by the House, and

Whereas, Since the true purpose of intern and resident training programs is to provide those in training with educational opportunities, experience and high standards of medical ethics in order to enable them to become competent and responsible physicians, and

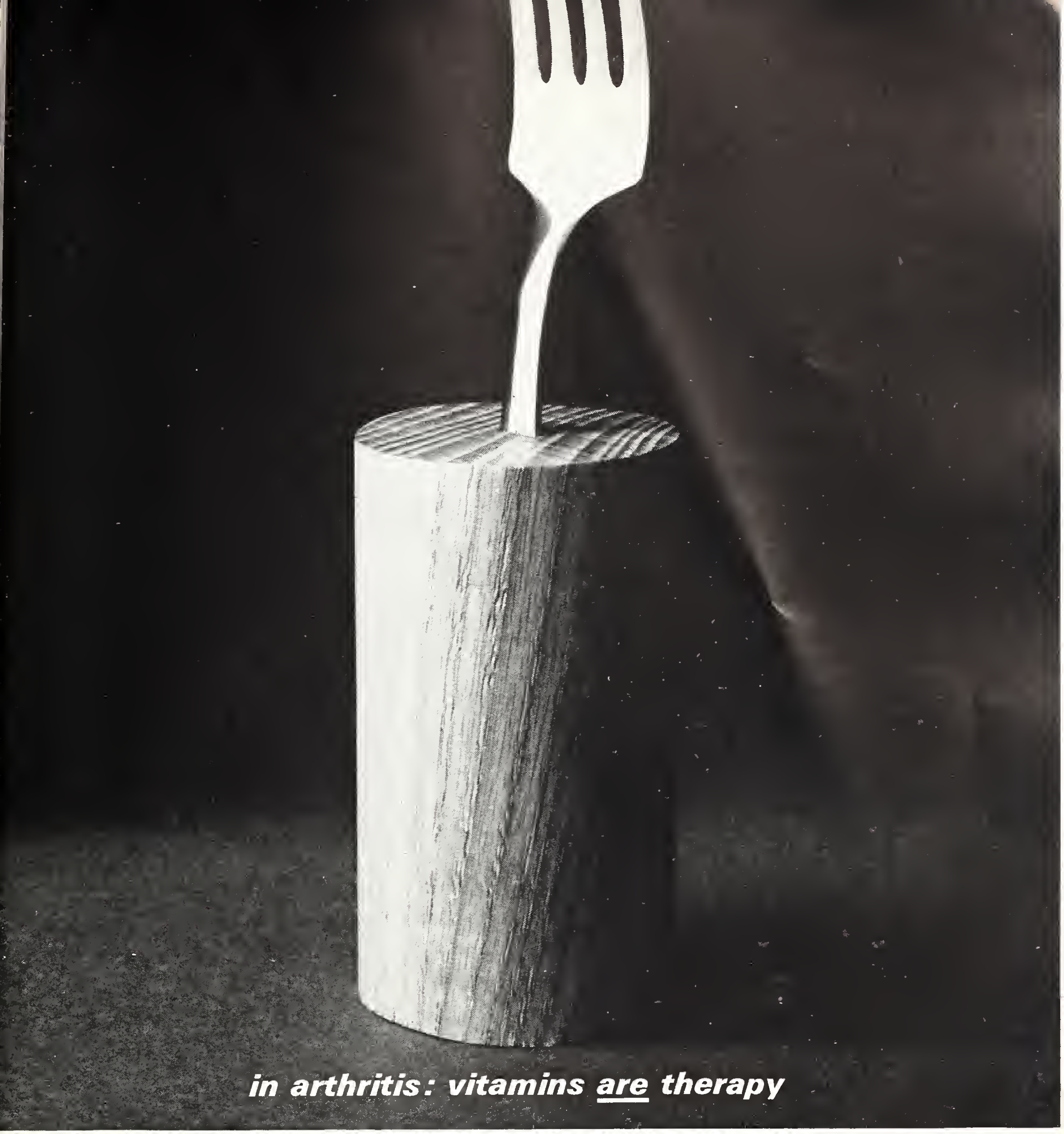
Whereas, The medical profession should therefore reject a basic principle considered in the report as fundamental in determining compensation for interns and residents—namely, that a graduate physician serving as an intern or resident should receive financial support commensurate with his professional responsibilities, with due recognition of his educational opportunities, and

Whereas, While the right and need of house officers to receive a living wage is recognized, interns and residents are primarily engaged in an educational experience and their work is not to be considered either as that of a practicing physician or as a source of financing for the training programs or other activities, and

Whereas, The problem of compensation for interns and residents has been, is, and should remain the function of the individual hospital concerned, therefore be it

Resolved, That the House of Delegates of the American Medical Association rejects the principle of the report's suggested formula for compensating interns and residents from funds provided by the hospital, attending staff and patients in proportion to the benefits received by each from the services of the house staff, and, be it further

Resolved, That the House of Delegates opposes any attempt to implement the special and supplementary reports on compensation of interns and residents published in the *Journal of the American Medical Association* of October 27, 1962, page 459, et sequitur.



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Whereas, One of the primary functions of the American Medical Association is to promote medical education and elevate educational standards in the United States, including postgraduate medical education, and

Whereas, The House of Delegates of the American Medical Association, at its November, 1962 Clinical Session, approved an informational report on a document titled, "Lifetime Learning for Physicians," also known as the Dryar Report, for use as a guide for a national program of continuing postgraduate medical education, and

Whereas, Careful study of this report shows that it places undue emphasis on certain means of communication in education, particularly electronic communications, and pays only passing tribute to the many important methods of postgraduate education now planned, developed and implemented through the efforts of various clinical societies, national and sectional specialty groups, the American Academy of General Practice and state and local medical societies, which provide physicians with varied and continuing educational programs, and

Whereas, Such medical organizations as these should be encouraged and urged to continue their efforts in postgraduate education; therefore, be it

Resolved, That the November 1962 action of the AMA House of Delegates in approving the document "Lifetime Learning for Physicians" as a guide for a national program of continuing postgraduate medical education be rescinded, and, be it further

Resolved, That the Dryar Report, "Lifetime Learning for Physicians" be referred to a reference committee for further study and determination of its logical use in planning postgraduate medical education, taking into full account present facilities, efforts and programs existing in American medicine today.

These resolutions were adopted by the House of Delegates of MSMA. After considerable discussion, the resolutions were approved for submission to the AMA House of Delegates.

Committee on Rural Health

Dr. Bass presented the following report of the Committee on Rural Health:

A meeting of the Rural Health Committee of the Missouri State Medical Association was held on February 10, 1963, in the Missouri Hotel in Jefferson City.

The Committee reviewed its written report for the House of Delegates of the Missouri Medical Association and felt that essential and pertinent details and functions of the Committee were included therein.

The Missouri University Preceptorship Program was discussed at length by the Committee, and the Assistant to the Dean, Dr. Mayer, was advised that the program is well received throughout the state. He was urged to encourage expansion of the Preceptorship Program to include, if at all possible, a majority of the senior medical students.

Mr. McIntyre gave a breakdown of the number of Missouri University graduates locating in Missouri. The Committee received this report with pleasure, and noted that Missouri's best probable source of future physicians appears to be from the Missouri University graduates. Mr. McIntyre also discussed the physician placement activities of the Missouri State Medical Association's office, and gave a list of a number of physicians who had located in the state during the last year.

The Committee discussed in some detail, the medical school and its relationship to the medical community. It was felt that aside from its primary purpose of educating medical students, that the medical school had a further obligation to the medical community, by providing assistance to the latter in its constant effort to upgrade its skills and knowledge. Note was taken of the programs and seminars that are offered throughout the year for this purpose. The Committee expressed its support and approval of these; however, a need for more formal and prolonged periods of study was expressed. The Committee realizes that plans of this sort present many problems, not the least of which might be the temporary replacement of the local physician. The Committee hopes that further consideration of the problem may be forthcoming at all levels of the Missouri State Medical Association.

The current status of mental health treatment in the state was discussed along with present plans for the upgrading and expansion of mental health facilities in the state, as proposed in particular by Dr. Ulett and his group. The Committee expressed its approval and support for this program, and the individual members were encouraged to contact their legislators in order that the necessary funds might be forthcoming to implement this program.

The Student Loan Program of the Missouri State Medical Foundation was discussed, and the Committee noted with pleasure that 81 students have already received loans from the Foundation. Balance sheet as of January 31, 1963, revealed only $142.00 remaining in the treasury for loans. Dr. Mayer explained to the Committee that there is urgent need for considerable amounts of additional funds to assist worthy medical students who are in financial need. The Committee endorsed and strongly supports further assistance to the Missouri State Medical Foundation program for this purpose. The committee also discussed further need of funds to finance medical education of Missouri students. Dr. B. J. Bass presented to the Committee an additional program designed to raise funds to support medical education of Missouri residents until such time as the Missouri State Medical Foundation becomes able to meet current and future requests. This plan would be based essentially on private finance and should enable considerable amounts of money to be available to medical students at a cost not greater than 3 per cent per annum. This plan is an outgrowth of instructions by the Medical Advisory Committee of Missouri University Medical School, to see if further funds could be raised for this purpose. This plan in no way interferes or competes with the Missouri State Medical Foundation program. The Committee members discussed it at length, and in general were favorably disposed to it. The plan is to be presented in detail at a later date to the Council of Missouri State Medical Association.

The Committee also discussed the desirability of having closer liaison between the Rural Health Committee of the Missouri State Medical Association and the Missouri Public Health Service. A letter from Dr. Hardwicke, Director of the Division of Public Health of Missouri, to Dr. Bass, Chairman of the Missouri Rural Health Committee, points out the desirability of closer liaison between the two groups for future cooperation. It was felt that possibly a medical representative of the Division of Public Health in the State of Missouri might well serve as one member of the Rural Health Committee in the State of Missouri.

The Committee encouraged its members to attend the session of the Missouri State Medical Association scheduled for March 24-27, at Kansas City, and adjourned.

After discussion, and on motion of Dr. Hollweg, duly seconded, the report was accepted.

Supplementary Loan Program for Medical Education

Dr. Bass presented a proposed supplementary loan program for Missouri residents at the University of Mis-

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souri School of Medicine which would include not only the students who need additional funds, but also interns and residents who are in financial need. This is a private enterprise venture which was arranged by Dr. Bass and others with the cooperation of Mr. George Curry, President of the Bank at Lebanon. Loans would be available to medical students, interns and residents at 3 per cent, payable three years after graduation. This is not intended to conflict with our Foundation, but will help when funds are depleted. The plan provides for a governing body composed of possibly the President of MSMA; President of MAGP; Dean of the Medical School (Mo.); representatives of the legal profession and Farm Bureau.

After considerable discussion, and on motion of Dr. Furlow, duly seconded, it was agreed to approve this plan in principle, subject to further study by a special committee to be appointed by the Chairman of the Council.

Dr. Bass and Mr. Curry were thanked for their efforts in this behalf. Dr. Stuart appointed the following committee to study this proposal: Drs. Fisher, Bass and Doyle.

Ellis Fischel State Hospital

Dr. Hardwicke reported that the Ellis Fischel State Cancer Hospital had received a research grant on cancer which would require building of new facilities. This is purely a research project and a nonprofit foundation will be formed. It is estimated that three million dollars will be required to erect the building and it is proposed that this be obtained through a campaign for contributions.

State Line Training Course

Dr. Hardwicke reported that he attended and served on the faculty of the three day State Line Training Course in Springfield, May 23, 24 and 25. He stated that 351 persons were registered and that the program was a success, and that Dr. Siegel, Chairman of the MSMA Committee on Civil Defense Disaster Medical Care, expressed his appreciation for MSMA contribution to the program.

Reports of Councilors by Districts

Dr. Macnish gave a brief report on the massive polio immunization plan in St. Louis and St. Louis County. He also extended an invitation to attend the Athletic Injury meeting at the St. Louis Medical Society on Sunday, August 18, which will be open to the public. He also reported the Woman's Auxiliary is looking forward to entertaining at the state meeting next spring, for the Sunday night affair.

Dr. Benoit reported that the Jackson County Legislative Committee is anxious to get started on "Operation Hometown" program. He also reported that the Jackson County Medical Society has approved the measles immunization program in cooperation with the Philips Roxane Company, June 1-2.

Dr. McCraw stated that the Southwest Missouri Cancer Conference at the Holliday Inn, near Table Rock, was a good meeting.

Dr. English reported that Mr. Frank Woolley of the AMA spoke at the Pemiscot County Medical Society meeting on May 16.

Redistricting Committee

Mr. O'Brien stated that a letter was sent to all county societies which included a questionnaire to be filled out and returned to the state office. There was a fair response up to this time, but a second letter would have to be sent. He reported that the committee would meet later on to review the results of the questionnaire.

Branch Office in Jefferson City

Dr. Stuart brought up the subject of a branch office in Jefferson City. The Council was instructed to study the situation and report back to the House of Delegates in 1964. It was suggested that Dr. Matthews contact the Cole County Medical Society to appoint a committee of the Cole County Society to meet with the Council at its next meeting.

Next Meeting

The dates of September 21, 22, were agreed upon for the next Council meeting.

Byron M. Stuart, M.D., *Chairman*

STATELINE TRAINING

Approximately 300 persons attended a Health Mobilization Stateline Training Course in Springfield May 23 to 25. The course entitled "Health Services in Emergencies" was sponsored by the Missouri Division of Health, Missouri State Civil Defense Agency, Missouri State Medical Association and the University of Missouri School of Medicine. Region VI Health Mobilization Services of the U. S. Department of Health, Education and Welfare and the Communicable Disease Center at Atlanta, Ga., cooperated in the course.

Carl D. Siegel, M.D., Sedalia, was chairman of the program committee for the course.

Emergency procedures in case of disaster was the theme of the course and a Civil Defense Emergency Hospital was inspected.

The attendance was made up of doctors, nurses, laboratory technicians, hospital officials and others in allied fields of medicine. Persons from eight other states were in attendance as well as from Missouri.

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County Society News

FIRST DISTRICT

JOSEPH L. FISHER, ST. JOSEPH, COUNCILOR

Buchanan County Medical Society

Forty members of the Buchanan County Medical Society attended the June 5 dinner meeting in the Empire Room at Hotel Robidoux. The scientific session was a symposium on "Hypertension." Caryl A. Potter Jr., M.D., served as moderator. The four members of the panel each discussed various aspects of hypertension from the point of view of their specialty.

The panelists were: Richard O. Craig, M.D., who discussed surgical problems with the hypertensive patient; Edmund W. Kline, M.D., who talked on problems of hypertension in pregnancy; John T. Rogers, M.D., spoke on problems of hypertension in general practice; F. Gregg Thompson Jr., M.D., outlined diagnosis and treatment of hypertension in children.

Dr. Thompson, program chairman, introduced the program. Presiding at the meeting, was the president, John R. McDaniel, M.D.

Preceding the Society meeting, Dr. and Mrs. William B. Rost held open house for members of the medical profession at Dr. Rost's new offices, 2605 Frederick Avenue.

On June 6, 75 doctors and wives attended the annual Auxiliary picnic at the home of Dr. and Mrs. Manson B. Pettis.

William Redmond, M.D., *Secretary*

Grand River County Medical Society

On May 9 members of the Grand River Medical Society, their wives and guests assembled at the Strand Hotel in Chillicothe for the regular monthly meeting of the Society. Following dinner the ladies retired to their own meeting and the doctors were privileged to hear as their speaker Hal C. Bingham, M.D., Chief, Section of Plastic Surgery, University of Missouri Medical School, who spoke on "Traumatic Hand Deformities."

Jack L. Vinyard, M.D., *Secretary*

SECOND DISTRICT

HARRY L. GREENE, COUNCILOR, HANNIBAL

Chariton-Macon-Monroe-Randolph County Medical Society

"What's New in Medicine" was the subject of a talk given by J. Will Fleming Jr., M.D., at the monthly dinner meeting of the Chariton-Macon-Monroe-Randolph County Medical Society at the Woodland Hospital in Moberly on Thursday night, May 9. Among things discussed were the use of female harmone in preventing second and third heart attacks, flu vaccine, the single treatment prophylaxis for measles, vitamin C in wound healing, stomach freezing in treating ulcers and kidney grafts.

Members present were Drs. D. E. Eggleston, Howard Miller, James Campbell and Carl Rinker, Macon County; Josephine Baker, A. P. Rowlette, Thomas S. Fleming, Robert H. Young, W. D. Chute, C. C. Cohrs, S. R. Szymanski, C. C. Smith, L. E. Huber, Robert Hasson and P. V. Dreyer, Randolph County; F. L. Harms and G. C. Rice, Chariton County; and F. A. Barnett, Monroe County.

J. Will Fleming, M.D., *Secretary*

FOURTH DISTRICT

PAUL R. WHITENER, ST. LOUIS, COUNCILOR

Lincoln-St. Charles County Medical Society

A joint dinner meeting of the Lincoln-St. Charles County Medical Society and the doctors' wives with the lawyers and their wives of the two counties was held at the Golf View Inn at St. Charles Golf Course on Tuesday evening, May 28. This affair began with a social hour followed by dinner with the program for the evening being one of special entertainment.

This was a pleasant evening of fellowship and furnished an opportunity for the promotion of good and closer relationship with lawyer friends.

Robert J. Flemnig, M.D., *Secretary*

SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

Henry, Johnson, Pettis, Saline County Medical Societies

One hundred seventy-six people attended the dinner meeting sponsored by the 805th Medical Group, Whiteman AFB on Wednesday night, May 15, in the Officer's Club at the AFB. This has been an annual affair for a number of years and physicians and their wives in the surrounding area look forward to this occasion. This year marked the largest attendance which included physicians and their wives in the surrounding counties, medical officers and their wives sta-

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References: 1. A.M.A. Council on Drugs: J.A.M.A. 183:469 (Feb. 9) 1963. 2. Gruenberg, F.: Curr. Ther. Res. 2:1 (Jan.) 1960.

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Col. McGeary, Dr. Barger, Gen. Towner and Dr. Hollweg pose following the meeting.

tioned at the base, as well as other medical group officers of the 805th medical group. Dr. Kenneth Hollweg of Kansas City, President of the MSMA and Mrs. Hollweg, were special guests on this occasion. Dr. Hollweg is a close friend of the featured speaker on the program, namely; Bridadier General Alonzo A. Towner. General Towner is SAC Surgeon stationed at Offutt AFB in Omaha. In his remarks to the group, the general emphasized the readiness at all times of SAC and explained to some extent how it is organized for maximum efficiency.

The attendance was 176.

For this signal occasion the evening festivities began at 6:00 p.m. with a social hour which offered opportunity to get acquainted, relax and enjoy a good visit. Following this an excellent dinner was served. Introductions were made by Lt. Col. Joseph D. McGeary, Commander of the 805th Medical Group at the base.

In addition to the evening festivities a number of physicians enjoyed golf on the base nine hole golf course in the afternoon.

O. B. Barger, M.D., *Councilor*

Lafayette-Ray County Medical Society

The May meeting of the Lafayette-Ray County Medical Society was held on May 14, 1963, at Lexington. Dinner was served, following which the meeting was called to order by W. E. Martin, M.D. A short business meeting was held. The speaker of the evening was unavoidably detained and the program which was to have been a discussion of the new oral polio vaccine by Dr. Hardwicke was not held.

Wayne Boydston, M.D., *Secretary*

West Central Missouri Medical Society

The regular meeting of the West-Central Missouri Medical Society was held at the Spring Dinner House in Eldorado Springs on May 9. The management served a fine steak dinner which was preceded with the usual social hour. This opportunity of visiting with friends always adds something to the evening.

In the absence of President Jones, Vice President Ecklund of Pleasant Hill presided and after the meal introduced Dr. Andrew Hahn and his wife from Springfield, Missouri. Dr. Hahn talked on the subject of "Systemic Lupus Erythematosus" and had interesting slides to show the typical LES smear cells for diagnostic value, and spent some time on the differentiation of the real lupus cell in contrast to those which were not typical of LES. He brought out a number of fine points in his presentation. It was a timely talk and all enjoyed it. There was considerable discussion following his talk, which is always a good criterion of a well presented talk.

Carter W. Luter, M.D., *Secretary*

EIGHTH DISTRICT

DOYLE C. McCRAW, BOLIVER, COUNCILOR

Ozarks Medical Society

The May dinner meeting of the Ozarks Medical Society and the doctors' wives was held at the Shadow Rock Hotel in Forsyth on Tuesday night, May 14. The program for the evening, sponsored by the Missouri Academy of General Practice in cooperation with the University of Missouri Medical School, presented Clement E. Brooke, M.D., professor and acting chairman, Department of Pediatrics, and F. B. Engley, Ph.D., professor and chairman, Department of Microbiology, University of Missouri Medical School, who discussed, "Practical Problems in the Use of Antibiotics." This was an interesting and practical presentation and elicited numerous questions from the audience. The Society is indebted to Drs. Brooke and Engley for this program. Local arrangements for the meeting were made by Dr. J. M. Threadgill of Forsyth.

PAUL B. ANDERSON, M.D., *Secretary*

NINTH DISTRICT

E. A. STRICKER, ST. JAMES, COUNCILOR

MID-MISSOURI COUNTY MEDICAL SOCIETY

The Mid-Missouri County Medical Society and the doctors' wives met at Baxter's Restaurant in Rolla on Thursday night, May 23, for the regular monthly Society meeting. The evening festivities began with a social hour followed by dinner and then a most interesting and informative program given by J. Eugene Lewis, Jr., M.D., St. Louis.

Dr. Lewis, associate professor of clinical surgery at St. Louis University Medical School and Chief, Surgical Section, Cardinal Glennon Memorial Hospital for Children, spoke on "Diagnosis and Management of Surgical Problems in the Newborn Infant." His discussion was unusually well received by those present and it is hoped he will find opportunity soon to speak to the society again.

M. K. UNDERWOOD, M.D., *Secretary*

TENTH DISTRICT

W. D. ENGLISH, CARDWELL, COUNCILOR

MINERAL AREA COUNTY MEDICAL SOCIETY

The May 23 meeting of the Mineral Area Medical Society opened with a discussion of office urology by William Melick, M.D., Chairman of the Department of Urology of St. Louis University. His illustrated lecture was followed by a 20 minute question and answer period.

The first item at the business meeting was the application of Dr. William Ford of Farmington for membership. His application was approved by the credential committee and accepted.

A motion made by Dr. Chastain, seconded by Dr. Bull, gave an honorary membership to Dr. William Patton of Ironton. The motion was approved.

The membership then decided that the next meeting should be an outdoor picnic meeting, to be held in conjunction with the Auxiliary, July 4, at the residence of Dr. and Mrs. C. W. Chastain.

Members in attendance were Drs. Ben Bull, Marvin A. Grossman, Charles Michaelis, Van W. Taylor, Marvin A. Haw, Paul Dennis, Robert Huckstep, A. G. Karraker, George Oliver and C. W. Chastain.

C. W. CHASTAIN, M.D., *Secretary*

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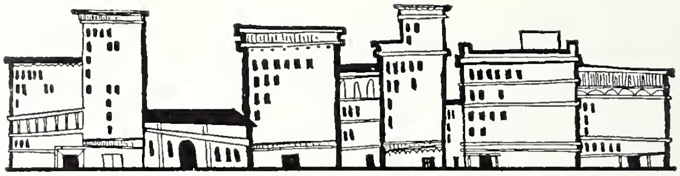
From the Medical Schools



ST. LOUIS UNIVERSITY

Awards Banquet

Two seniors at the St. Louis University School of Medicine were recipients of awards in the annual Beaumont competition for the most original research work submitted by senior medical students, while eight seniors shared in awards noting their scholastic achievement at the annual senior banquet sponsored by the University's Medical Alumni Association.

Dr. Robert E. Schichtel, Whittier, Calif., was the winner of the first place $500 Borden Award. His research paper was entitled "An Investigation of the Inhibiting Action of Penicillin, Cycloserine, and D-Methionine on Bacterial Cell Walls."

Dr. Schichtel's paper describes an inquiry made into the mechanism of action of various antibiotics including penicillin and cycloserine. In his investigation, unnatural amino acids were shown to interfere with normal bacterial metabolism. His research showed that although penicillin and cycloserine interrupted enzymes necessary for synthesis of bacterial cell wall, they did act at the same point in this synthesis.

Dr. C. T. Bombeck III, Kansas City, was the recipient of a $400 second place Beaumont award for his research paper entitled, "Virus Induced Alterations in Cellular Metabolism."

In recognition of the excellence of Dr. Bombeck's research paper, the Beaumont Competition award of $200 was doubled to $400 this year.

Dr. Bombeck's study involved metabolism of L-strain tissue cells in culture and the effects of infection by the virus which caused vesicular stomatitis virus. During the studies on the effects of virus infection on the metabolism of the cells, the presence of an inhibitor was detected. The inhibitor was shown to be a protein which is stable to heat, irradiation ultraviolet and acid. Accumulating in the media as evidence of interrupted metabolism was a reducing substance which represented abnormal metabolism.

Dr. Dean L. Mann, International Falls, Minn., was the recipient of a $100 bond presented by the Missouri State Medical Association for outstanding performance in medicine; Dr. David Tarmina, San Jose, Calif., was the recipient of a $100 check awarded by the St. Louis Pediatrics Society for outstanding performance in pediatrics, and Dr. Robert Henry, University City, was the recipient of a $50 check for outstanding performance in clinical surgery presented by the Surgery Department of St. Louis University School of Medicine.

Mosby awards presented for scholastic excellence went to Dr. Jerome A. Basinski, East St. Louis, Ill.; Dr. Joseph A. Bardenheier III; Dr. John Berson, Cincinnati, Ohio; Dr. William M. Cross, Normal, Ill., and Dr. Thomas McIntosh, Billings, Mont.

The banquet marked the last time before commencement that the seniors meet as a class and at which time they make plans for future participation in University Alumni affairs. The students received certificates of membership and were welcomed into the University's Medical Alumni Association by Dr. John F. Shaner, president. Dr. R. Emmet Kelly, president-elect of the Medical Alumni Association, was also present. In concluding the awards banquet, Dr. Armand E. Brodeur, associate dean, St. Louis University School of Medicine, recited the Hippocratic oath.

In the News

Dr. C. Rollins Hanlon, director of the department of surgery, delivered an address as president of the North American Chapter of the International Cardiovascular Society in Atlantic City on June 15. He also moderated a panel before the American College of Chest Physicians on June 16. Dr. Hanlon was recently elected president of the St. Louis Cardiac Club.

Dr. Philip A. Katzman, professor of biochemistry, and Dr. William H. Elliot, professor of biochemistry, have written a chapter on "Steriods" which appears in "Comprehensive Biochemistry." The book deals with organic and physical chemistry of the major organic constituents of living matter. Dr. Katzman was a Merck Sharpe and Dohme visiting professor at the University of South Dakota in May.

Dr. Grayson Carroll, professor of urology, delivered his presidential address before the American Urological Association which met in St. Louis in May.

UNIVERSITY OF MISSOURI

Meetings

Six outstanding graduating students at the University of Missouri School of Medicine received special honors at the annual pre-Commencement exercises of the school June 4. At the exercises the Oath of Hippocrates was administered to the candidates for M.D. degrees and the prospective graduates received their M.D. vestments. Dean Robert Q. Marston, M.D., of the University of Mississippi School of Medicine, was the speaker at the ceremonies. His topic was "A Proper Reference."

The six students who received honors and their awards are: Clarence E. Ridenhour, the Missouri State Medical Association Award of $100 bond and a scroll to the outstanding graduate of the Class of 1963, and the Psychiatry Award, a $100 award for an outstanding thesis in psychiatry. Michael Kowertz, the Schering Corporation, St. Louis Academy of General Practice Award of $425 to an outstanding graduating senior entering general practice and the Merck Manual Award. Larry Toalson, the Merck Manual Award. F. Tempel Riekhof, the Parker B. Francis Award in anesthesiology, $50 for excellence in scholarship in anesthesiology. Roberta L. Lowry, the Parker B. Francis Award in Anesthesiology, and an honorable mention citation from the American Medical Women's Association, Inc. Franklin O. Black, the Fred B. Kyger Award in Obstetrics and Gynecology, $100 for the best record in obstetrics and gynecology.

Dr. Oscar E. Schotte, professor of biology at Amherst College, presented the annual medical lecture of the Missouri chapter of Phi Beta Pi, national medical fraternity May 9 at the Medical Center. Dr. Shotte's subject was "Hormones and Thalidomide in Regeneration and Morphogenesis."

Willard A. Krehl, M.D., Ph.D., director of the Clinical Research Center for the University of Iowa, gave a lecture at the Medical Center May 16 on "Nutritional Aspects of Gastrointestinal Disease." The lecture was sponsored by the University's department of chemistry and the Nutrition Education Program for Practicing Physicians of the National Vitamin Foundation, New York.

Dr. Ronald W. Estabrook, associate professor of physical biochemistry at the University of Pennsylvania, lectured at the Medical Center May 10 as the final lecturer in the "Special

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Topics in Biochemistry." Dr. Estabrook's lecture was "The Role of Oxidative Enzymes in the Regulation of Cell Metabolism."

Trips and Talks

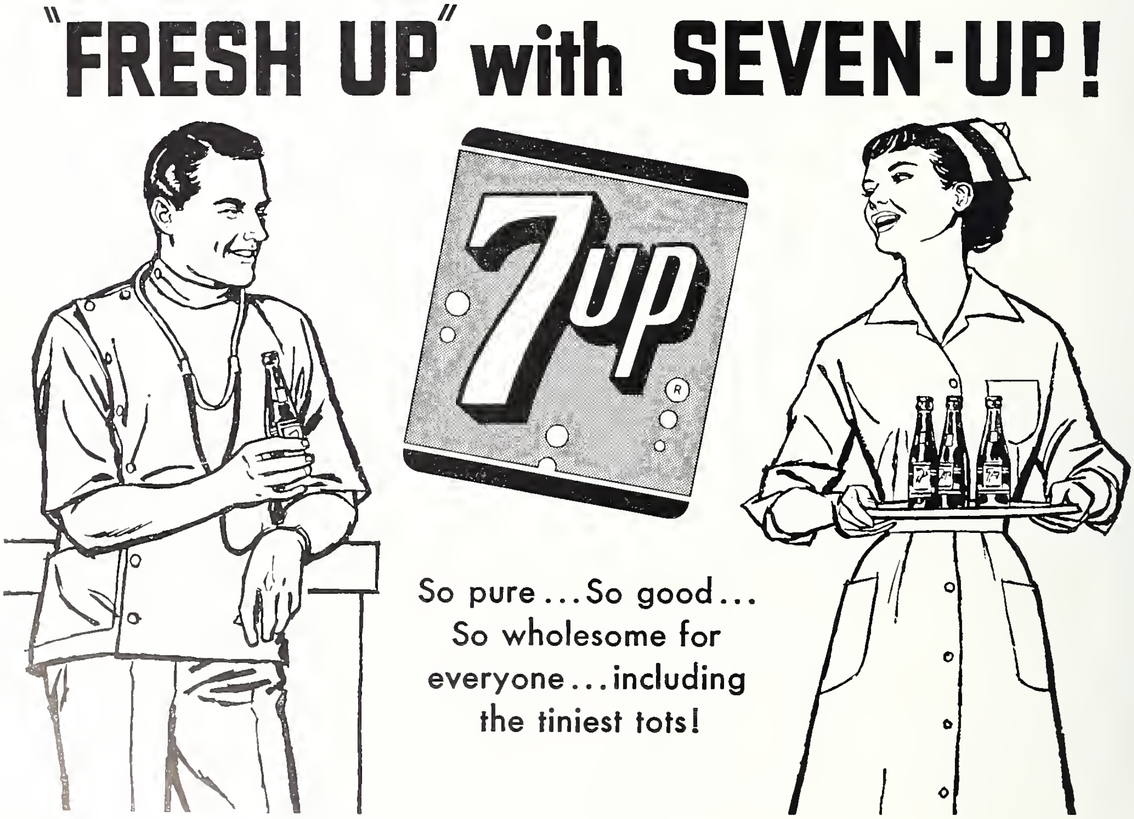
Dr. E. W. Lowrance, professor of anatomy, presented a paper at a meeting of the Kansas Academy of Science May 3, on "Weight and Variation of Parts of the Human Vertebral Column."

Dr. James A. Green, associate professor of anatomy, lectured by invitation before the fourth Mexican Congress of Obstetrics and Gynecology in Mexico City on June 14. Dr. Green lectured on "Electron Microscope Studies of the Human Ovary." The studies which Dr. Green discussed have resulted from collaboration with Dr. Manuel Maqueo, chief of pathology in the Hospital for Obstetrics and Gynecology in Mexico City.

Dr. F. Eugene Doenges, associate professor of anatomy, attended a meeting in St. Louis sponsored by the department of Neurology-Neurosurgery at Washington University, April 12. Neurophysiology of the central nervous system was discussed in papers by the alumni of this department during the day. An evening lecture by Dr. T. Bullock of the Brain Research Institute of the University of California discussed the neurophysiology of the invertebrate nervous system.

Dr. Frank B. Engley Jr., professor and chairman of the department of microbiology, attended the national meeting of the American Society for Microbiology in Cleveland, Ohio, May 4 to 9, as a representative of the Eastern Missouri Branch on the Council and was convenor of a main scientific session. At the meeting he was appointed a member of the National Committee on Microbiological Methods. May 13-15 he attended the Missouri Public Health Association 37th Annual Meeting in St. Louis as a member of the executive committee and as chairman of the resolutions committee. May 14 Dr. Engley spoke with Dr. Clement Brooke, associate professor of pediatrics, to the Ozark Medical Society in Forsyth, Mo., on "Practical Problems With the Use of Antibiotics."

Dr. Herbert S. Goldberg, professor of microbiology, and Richard M. Hyde, instructor, also attended the national meeting of the American Society for Microbiology in Cleveland, Ohio. A paper authored by Virendra Patel, a graduate student of Dr. Goldberg, was read at the meeting. On return from the meeting Dr. Goldberg



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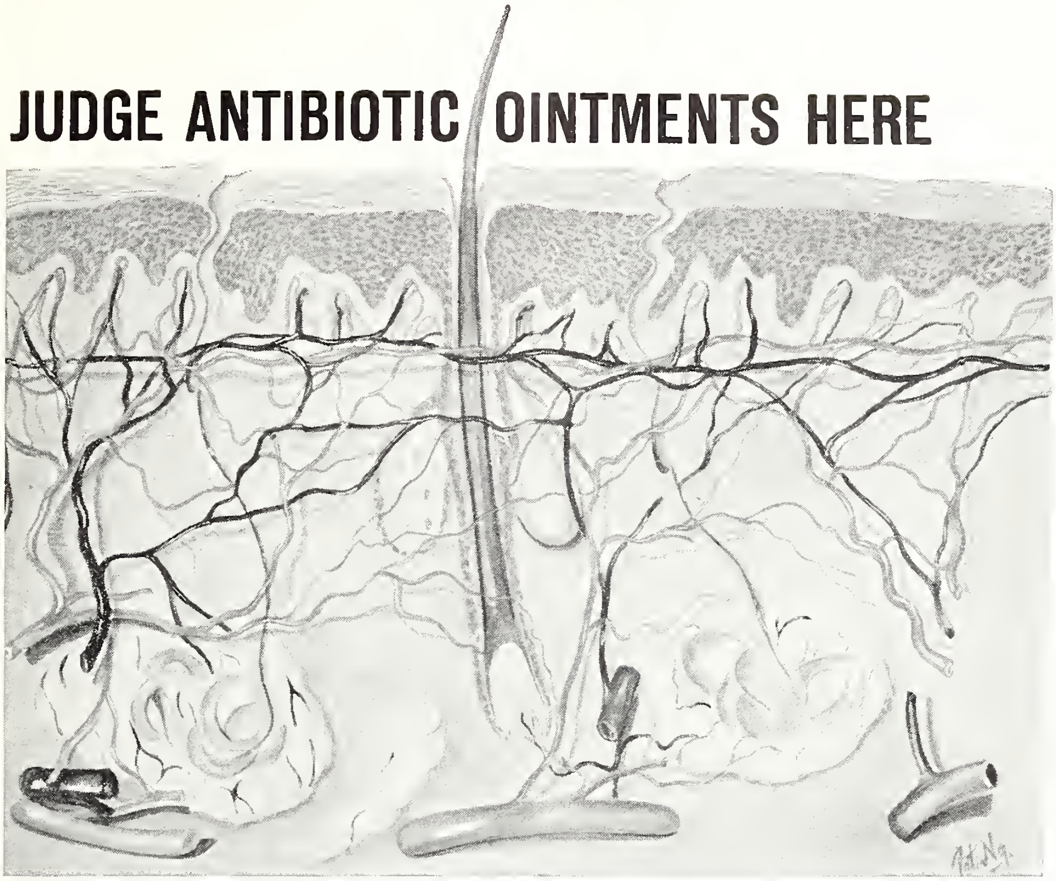

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visited Ohio State University, Columbus, the departments of microbiology and agricultural biochemistry.

Dr. James T. Barrett, associate professor, Dr. Donald Durand, and Dr. Hyde all attended the 47th annual meeting of the Federation of American Societies for Experimental Biology in Atlantic City, N. J., April 16 to 20. Dr. Durand is an assistant professor of microbiology. On May 20 Dr. Durand presented two lectures at SIU.

Dr. David G. Hall, associate professor and chairman of the department of obstetrics and gynecology, attended a meeting of the American Society for the Study of Sterility and the American College of Obstetricians and Gynecologists annual meeting in New York City, N. Y., April 18 to 22.

Dr. James M. A. Weiss, professor and chairman of the department of psychiatry, Dr. Robert Barnes, clinical associate professor, and Dr. Charles B. Wilkinson, clinical associate professor, served during a five-day program on "Community Psychiatry" sponsored by the U. S. Public Health Service in Kansas City, during which Dr. Weiss gave two lectures on "Psychiatric Epidemiology" and Dr. Barnes, Wilkinson and other staff members at the MU-affiliated Psychiatric Receiving Center in Kansas City described and demonstrated the operation of their facility.

Dr. Fernando Tapia, associate professor of psychiatry, attended a meeting in St. Louis May 6 to 10, sponsored by the American Psychiatric Association, where he participated in the presentation of some data from his personal research and also attended many meetings on child psychiatry and reviewed films on that subject.

Dr. Jacob O. Sines, associate professor of clinical psychology, attended the Midwestern Psychological Association meeting in Chicago, May 2 to 4. Robert E. Froelich, M.D., assistant professor of psychiatry also attended the meeting on May 10 of the American Psychiatric Association in St. Louis. On May 5, Dr. Froelich attended the executive committee meeting and the annual scientific meeting of the Council on Medical Television held in Bethesda, Md.

For a number of years, the orthopedists, radiologists and pathologists of the City of Philadelphia have held a monthly conference during which bone tumor cases are presented for discussion of differential diagnosis and management. It is a major teaching conference regularly attended by about 250 physicians. It is their custom to end each season's program with a discus-

(Continued on page 814)

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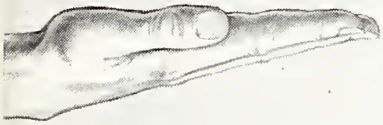
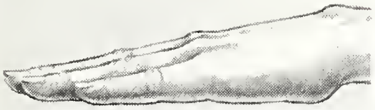
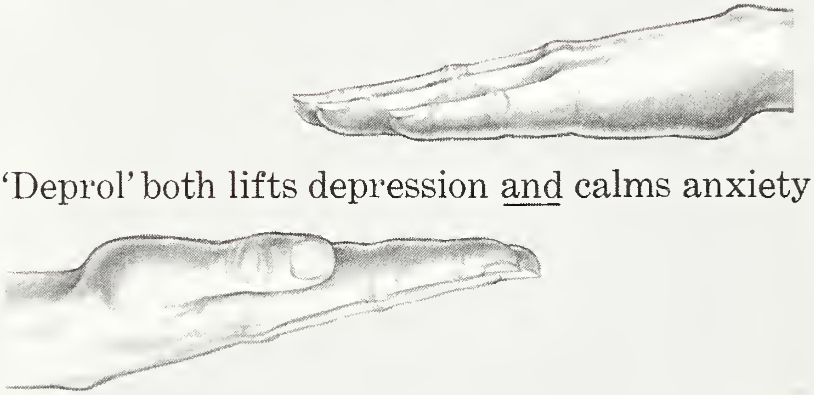




Tranquilizers reduce anxiety



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sion by a guest speaker. On April 22, Dr. Gwilym Lodwick, professor and chairman of the department of radiology at the Medical Center, was the guest speaker for this group. His discussion was "Radiologic Diagnosis of Bone Tumors." Dr. Lodwick also visited various institutions while in Philadelphia.

May 10 and 11 were the dates for the meeting of the Missouri Society of X-Ray Technicians held in Springfield, Mo. Dr. Lodwick attended the meeting as a representative of the Trustees of the American Registry of Radiologic Technologists. Mr. George Keonig, past chairman of the executive committee of the Society, reported to the committee and discussed districting of the state under one Missouri society. Mr. Darrell Wood, supervising technician in the radiology department was installed as president of the Missouri Society of X-Ray Technicians.

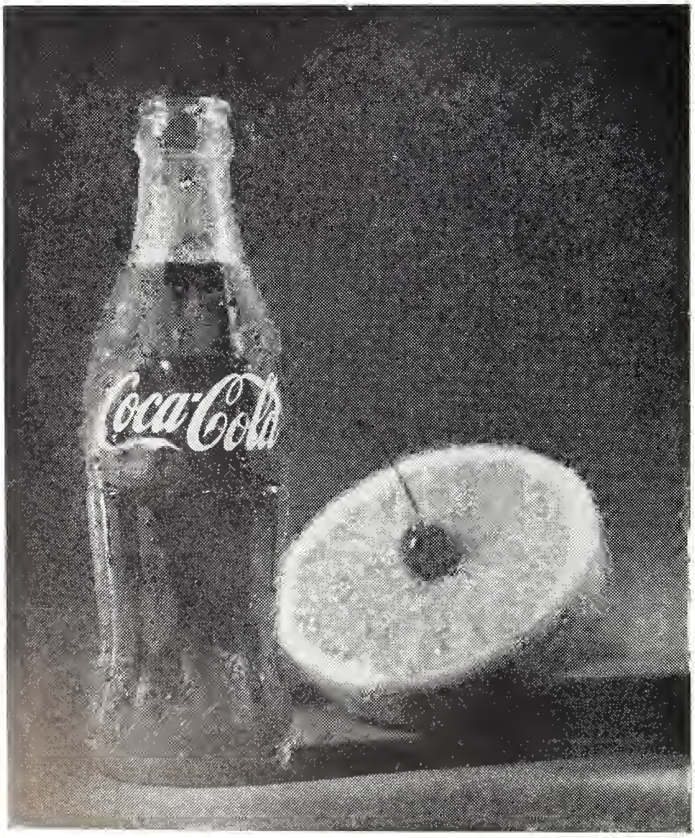
Dr. Kenneth Rall, resident physician at the Medical Center, represented the radiology department at the recent MEND Conference in Washington, D. C. The conference was entitled, "A Symposium on Radiological Defense and Treatment of Radiation Injury."

Dr. Kenneth K. Keown, professor of surgery (anesthesiology), was invited by the Medical Association of Georgia to be a guest speaker at their annual meeting held in Jekyll Island, Ga., May 5 to 8. Dr. Keown presented "Preanesthetic Evaluation of Blood Loss in the Traumatized Patient" May 6 to the Surgery, Orthopedics, and Anesthesiology joint section meeting, and participated in a panel discussion later that morning. Dr. Keown was guest examiner for the American Board of Anesthesiology at a meeting in Scottsdale, Ariz., April 22 to 26.

Dr. Samuel P. W. Black, professor of surgery (neurosurgery), presented a paper before the Harvey Cushing Society at its Philadelphia meeting, April 18 to 20. The paper, of which Dr. William J. German of Yale University was coauthor, was entitled, "Cervical Ligation for Internal Carotid Aneurysms: An Extended Follow-up."

Dr. Hugh E. Stephenson Jr., professor of surgery, attended the American Society for Artificial Internal Organs in Atlantic City, N. J., April 16, to present a paper with Dr. John Schuder, associate professor of surgery, on "Energy Transport and Conversion for a Permanently Implanted Artificial Heart" and to attend the Federation of American Societies for Experimental Biology.

Dr. Ian M. Thompson, professor of surgery (urology), was a guest speaker at the meeting of the Arkansas Medical Society and presented a paper entitled: "Troublesome Urologic Prob-



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lems in Women," April 22 and 23, held in Little Rock, Arkansas. On April 29 and 30 Dr. Thompson was a guest speaker at a surgical postgraduate course at the University of Nebraska College of Medicine in Omaha.

Dr. Thompson and Dr. Gilbert Ross, instructor in surgery, urology, attended the Ninth Annual Seminar in Urology held in the Kansas City General Hospital, April 24 and 25. At the 58th Annual Meeting of the American Urological Association, Inc., May 13 to 16, Drs. Thompson, Ross, Johnson, Kovacsi, Casteel, Michener and Robards presented papers on the "Influence of Non-Obstructive Ureteral Reflux on Renal Function in Humans on Animals," and presented exhibits on "A New Technique for Urethorplasty" and "The Detrusograph." The meeting was held in St. Louis.

Dr. Robards coauthored a paper "Incidence and Clinical Significance of Bacteremia and Bacteremic Shock" with Dr. Donald A. B. Lindberg, instructor in pathology, and Dr. Thompson, which was presented at the meeting of the Federation of American Societies for Experimental Biology, April 15 to 19.

Dr. Hal G. Bingham, assistant professor of surgery, plastic surgery, was a guest speaker at a meeting of the Grand River Medical Society in Chillicothe, Mo., May 9. His topic was on "Traumatic Hand Deformities."

ELLIS FISCHEL STATE CANCER HOSPITAL

Miguel A. Bozzini, M.D., Buffalo, New York, former resident in radiotherapy at Ellis Fischel State Cancer Hospital from 1955 to 1957, visited in Columbia from March 30 through April 3, 1963. He is now en route to Atlanta, Georgia, where he will be chief radiotherapist at Grady Memorial Hospital and assistant professor of radiology at Emory University. Since 1958 he has been associate cancer research radiotherapist at Roswell Park Memorial Institute in Buffalo, New York.

A. McChesney Evans, M.D., served on the committee on evaluation of two new chemotherapy agents sponsored by the National Cancer Institute. The new drugs are an anti-tumor antibiotic designated by the code number A-649 manufactured by Abbott Laboratories, known as A-20968. These committees were held in conjunction with the Midwest Cooperative Chemotherapy Group in Atlantic City on May 1.

Jessie L. Ternberg, M.D., was guest speaker at the Thursday afternoon conference. Dr. Ternberg discussed "Hepatic Function Studies."

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WASHINGTON UNIVERSITY

Dr. O'Leary Named Head

Dr. James O'Leary will serve as chairman of the newly organized Department of Neurology at Washington University School of Medicine. The new department has been a unit of the Department of Psychiatry and Neurology, which was established as the Department of Neuropsychiatry in 1937. Dr. Eli Robins is now head of the psychiatry department succeeding Dr. Edwin F. Gildea, who will devote full time to research and teaching.

James O'Leary, M.D.

"Research has greatly increased knowledge available in the field of neurology," Dr. Edward W. Dempsey, dean of the School of Medicine, said in explaining the creation of the new department. "New diagnostic procedures and new methods of treatment now permit much more to be done than formerly. The new and enlarged department recognizes the distinguished work being carried out in neurology in the Medical Center."

Dr. O'Leary, a faculty member at Washington University since 1928, has served as professor of neurology since 1946. He is past president of the American Neurological Association and has served on the National Advisory Neurological Diseases and Blindness Council to the Surgeon General. He was recently awarded a Career Research Award, the highest accolade of the U. S. Public Health Service.

Grants

A total of $1,202,278 has been awarded to Washington University School of Medicine recently by the U. S. Public Health Service. Of this amount $271,573 will be used to instigate new projects and $930,705 constitutes renewal grants for research now underway with Public Health Service support.

Largest of the new grants is $44,566 which was awarded to Dr. H. Mitchell Perry, assistant professor of medicine. He will attempt to determine spectographically the minute amounts of metal present in human tissue. A comparison of the quantities of the trace metals in normal and diseased states will also be made.

Dr. Lee Robins, research associate professor of sociology, will use a $40,842 award to determine the relation between crime and poverty. She will make a study of Negro boys born in St. Louis through their school history into adulthood evaluating the importance of the childhood socio-economic status, behavior problems and absence of a father in the home in relation to their adult arrest records.

A $35,140 award will be utilized by Dr. Bryce Munger, assistant professor of anatomy, to investigate the cytology of cells involved in the production of specific secretory products, such as saliva, sweat and digestive enzymes. This grant will also establish a light microscopic laboratory in the department of anatomy.

Dr. John W. Josse, assistant professor of microbiology, who received a $34,220 grant, will use radioactive isotopes to follow the buildup and breakdown of nucleic acids in developing plants and certain animal systems. He will attempt to relate the changing enzymes and structure of the developing cells to their genetic material, DNA.

Dr. David Schlessinger, instructor in microbiology, was awarded a $32,675 grant, which he will use to study the exact composition of ribosomes, particles which are the factories for protein synthesis in each cell and ultimately responsible for the growth of the cell.

Dr. Stephen Kinsky, assistant professor of pharmacology, was awarded a $30,430 grant, which will support investigation on the mode of action of antibiotics which kill infectious fungi but have no effect on bacteria.

A $30,000 award to Dr. Fred Reynolds, professor of orthopedic surgery, will support a conference of investigators to study aseptic necrosis of the femoral head. The scientists will meet in St. Louis next January for a round-table discussion of the problems involved in research on the disorder.

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(Western Missouri Administrators)

Dr. John Herweg, assistant professor of pediatrics, will study the human salivary gland virus, the cytomegalic inclusion disease virus, with a $23,700 grant. He will attempt to determine the rate and mode of development of the virus, which has been linked to brain and liver disorders appearing at birth.

Washington University School of Medicine will share in a grant from Procter and Gamble of $450,000 over a five year period with five other nationally known medical schools. The six medical schools were selected because of the number and quality of the men they have contributed to the teaching staff of the nation's medical schools. The other schools are located at Columbia University, the University of Chicago, Harvard University, Johns Hopkins University and the University of Pennsylvania.

A Richard King Mellon Charitable Trusts grant of $5,750,000 will be shared by Washington University School of Medicine and 22 other private medical schools. Each school will receive $250,000 over a five year period to support faculty members engaged in teaching, especially in the basic sciences. Selection of the schools was based on a study by two retired professors at Columbia University's College of Physicians and Surgeons.

Dr. Oliver H. Lowry, professor and head of the department of pharmacology, received a grant of $24,583 from the American Cancer Society as an ancillary award to a research project for which he received a prior grant of $68,103. He is studying the cytochemistry of the nervous system.

Promotions Announced

Promotions have been announced for 21 Washington University School of Medicine faculty members. Those promoted to professor are Dr. William N. Daughaday, medicine; Dr. Arthur S. Gilson, physiology; Dr. William M. Landau, neurology; and Dr. Sarah A. Luse, anatomy and pathology. New associate professors are Dr. Sam L. Clark Jr., anatomy; Dr. Carl Frieden, biochemistry; Dr. John C. Herweg, pediatrics; and Dr. Warren G. Stamp, orthopedic surgery. Promoted to assistant professor were Dr. France Alexander, medicine, preventive medicine and obstetrics and gynecology; Dr. William E. Edmonston Jr., medical psychology; Dr. Marvin J. Friendenburg, radiology; Dr. Lawrence I. Kahn, clinical pediatrics; Dr. David E. Kennell, microbiology; Dr. George R. Morrison, internal medicine; Dr. Charles W. Parker, internal medicine; Dr. David Schlessinger, microbiology; Dr. William H. Sherman, research assistant professor of biochemistry in psychiatry; Dr. Mark A. Stewart, psychiatry; Dr. John D. Vavra, internal medicine; Dr. Joseph R. Williamson, pathology, and Dr. Adel A. Yunis, internal medicine.

Faculty Honors

Dr. Estelle Brodman was named president-elect and vice president of the Medical Library Association at their 62nd annual meeting in Washington, D. C. She is librarian at Washington University School of Medicine and associate professor of medical history. She will take office as president of the association in June 1964 at the annual meeting in San Francisco.

Dr. Mildred Trotter, professor of anatomy, is spending July, August and September in Africa as consultant for the Rockefeller Foundation program in the medical and natural sciences. As visiting professor of anatomy at Makerere University in Kampala, Uganda, East Africa, Dr. Trotter is teaching a postgraduate course for qualified physicians who are preparing for the Royal College of Surgeons examination.

Dr. Heinz Haffner, assistant professor of clinical surgery, was named president-elect of the Washington University Medical Alumni Association at their annual business meeting. Dr. Edward H. Reinhard, professor of medicine, was introduced as president of the association for the coming year. Dr. Robert W. Kelley, instructor in clinical medicine, was elected vice president and Dr. Richard V. Bradley, assistant in clinical surgery, was reelected secretary-treasurer of the association. Councilors are Dr. William Costen, assistant in clinical orthopedic surgery; Dr. David Goldring, professor of pediatrics; Dr. Robert Lund, assistant in clinical surgery; Dr. Guy Magness, St. Louis; Dr. Alfred Gellhorn, New York City; Dr. Doris Jasinski, Honolulu; Dr. Alfred A. Thurlow, San Francisco, and Dr. S. J. Walker, Mobile, Alabama.

Dr. Carl V. Moore, Busch professor and head of the department of medicine, was elected president of the Association of American Physicians at their annual meeting in Atlantic City. Also in Atlantic City, Dr. Herman N. Eisen, professor and head of the department of microbiology, was elected vice president of the American Society for Clinical Investigation.

Student Awards

Paul M. Packman, son of Mr. and Mrs. Simon Packman, Olivette, was awarded the Borden Undergraduate Research Prize in senior ceremonies at Washington University School of Medicine June 9. Packman received the prize, which carries a $500 award, for chemical and enzymatic studies of the pituitary gland in different physiologic conditions.

Other honor students who received the M.D. degree June 10 were: Ronald W. Barnet, Phoenix, and William S. Joffe, Kansas City, cowinners of the Dr. Richard Brookings Prize; Joseph E. Loewenstein, Port Arthur, Texas, the Dr. Robert Carter Prize; David Nelson, St. Paul, Minn., the Alpha Omega Alpha Prize for maintaining the highest four year academic average of the class, and the prize of the Medical Fund Society for excelling in the study of surgery; Charles Leonard, Denver, the Medical Fund Society prize for the senior student who excels in the study of internal medicine, and the Sidney I. Schwab Book Prize in psychiatry; Taylor Prewitt, McGehee, Arkansas, the George F. Gill Prize in Pediatrics; Robert Kaufman, University City, the James Henry Yalem Prize in dermatology; Rodney Wishnow, Flushing, N. Y., the Jacques J. Bronfenbrenner Memorial Award for work in infectious diseases; Marshall Gollub, Phoenix, the Sidney I. Schwab Book Prize in neurology; Robert S. Hunt, Cape Girardeau, the Missouri State Medical Association Annual Award for an honor graduate. Recipients of the C. V. Mosby Book awards for high general scholastic standing and research achievement were Stanford I. Lamberg, University City; James L. Murdock, Webster Groves; Patrick O'Donoghue, Oklahoma City; Robert M. Swenson, Chicago, and Robert H. Waldman, Dallas.

Dr. Thomas E. Brittingham, former chief of the Washington University medical service at City Hospital, spoke at the annual award program. He is now associate professor of medicine at Vanderbilt University School of Medicine.

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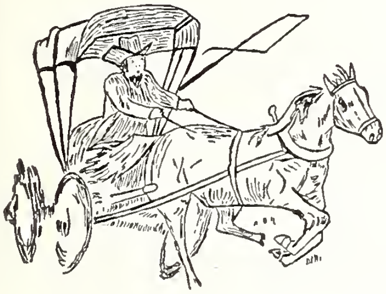

FORTY YEARS AGO

On April 14, 1923, the Jackson County Medical Society inaugurated an annual event to be known as "Presidents Night," in honor of the past presidents of the Society. A remarkable fact stands out that of the 41 past presidents of the Society, since its origin in 1881, 21 are now living, and of such number 17 were present.

This is the 20th anniversary of the reorganization of the Association. At the 45th Annual Meeting, at St. Joseph in 1902, the plan of the American Medical Association proposing that all state associations should become integral parts of the national association was submitted and discussed. It was adopted at the Excelsior Springs Session in 1903. By this change MSMA became at once an organization of state wide influence with 40 component societies and a numerical strength of 1,128 members whereas previously there were some 286 members from scattering sections of the state, without cohesion, devoid of the strength. Dr. Jabez N. Jackson was the chairman of the committee on reorganization which recommended the adoption of the plan and he became the first chairman of the Council. The first president under the new order of affairs was Dr. Woodson Moss, Columbia, and Dr. C. M. Nicholson, St. Louis, was elected secretary. The Secretary reported that twenty years ago there were 1,128 members with dues of $2 per year. Today (1923) there are 3,549 members at $5 per year and more members have paid their dues than had done so at this time when $3 was the annual dues.

Dr. Nathaniel Allison, of St. Louis, dean of Washington University Medical School, has resigned and will go to Harvard University as head of the department of orthopedic surgery of the medical school there.

TWENTY-FIVE YEARS AGO

The Medical Business Bureau has been in operation for ten months and within that time it has been successful in collecting over $4,500 on the accounts that have been referred. Of this amount, over $3,000 has been paid to the doctors. One hundred ninety members of Jackson County Medical Society have referred accounts for collection.

The Cape Girardeau County Medical Society held a dinner meeting at the Colonial Tavern, Cape Girardeau, June 13. A stereopticon, purchased on approval, was used for the first time. After the lecture approval of the lantern was expressed and a motion carried ordering the lantern purchased.

TEN YEARS AGO

The Paris, Missouri, Progressive Club honored George M. Ragsdale, M.D., at a jubilee on April 10. According to the press, "Dr. Ragsdale, one of the few remaining country doctors in this section, was honored for many years of unselfish service to the thousands of Monroe County persons who have come to love him as a friend and physician. He was presented a framed scroll bearing the inscription, 'with the love and affection of the people whom he has served.' "

The Princeton Chamber of Commerce honored J. M. Perry, M.D., on the completion of fifty years of practice.

The fourth Annual F. G. Thompson Sr. Lecture, sponsored by the Thompson-Brumm-Knepper Clinic, St. Joseph, was May 28. Robert S. Dinsmore, M.D., Chief of Surgery at the Cleveland Clinic, spoke on "Changes in Surgery During the Past Decade."

At a meeting of the MSMA Auxiliary, Mrs. C. Alex McBurney, Slater, was installed as president. President-elect is Mrs. W. E. Martin, Odessa; vice presidents are Mrs. Norton Eversoll and Mrs. Guy Magness, St. Louis, Mrs. Robert Duncan, Springfield, and Mrs. Joseph Fisher, St. Joseph. Mrs. Victor B. Buhler, Kansas City, is recording secretary, Mrs. Frank B. Leitz, Kansas City, treasurer, and Mrs. H. C. Bauman, Marysville, auditor.

Durward G. Hall, M.D., Springfield, was named a member of the executive committee of Region 8 of the Boy Scouts of America at an annual meeting in Kansas City, Kan., on April 16.

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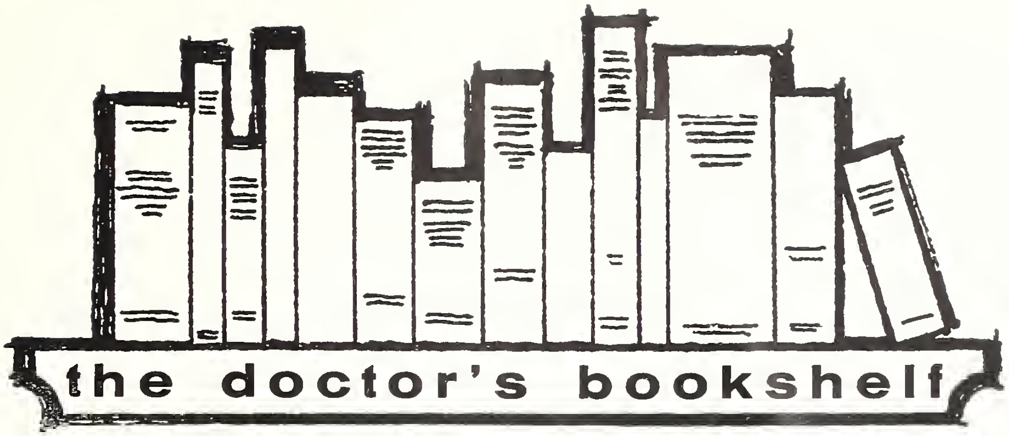

the doctor's bookshelf

BOOKS RECEIVED

Handbook of Pediatrics, by Henry K. Silver, M.D., Professor of Pediatrics, University of Colorado School of Medicine, Denver, Colorado; C. Henry Kempe, M.D., Professor of Pediatrics and Head, Department of Pediatrics, University of Colorado School of Medicine, Denver, Colorado; and Henry B. Bruyn, M.D., Associate Professor of Pediatrics and Medicine, University of California School of Medicine, San Francisco, California, Director of Student Health, University of California, Berkeley, Calif. Fifth Edition. Lange Medical Publications, Los Altos, California, 1963. Price: $4.00.

The Fat Boy Goes Poly-Unsaturated, by Elmer Wheeler, author of The Fat Boy's Book. Doubleday & Company, Inc., Garden City, New York, 1963. Price: $3.50.

Ciba Foundation Study Group No. 14, Intestinal Biopsy, in honour of Professor C. Jimenez Diaz, edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Margaret P. Cameron, M.A. Little, Brown and Company, Boston, Massachusetts. Price: $2.95.

Ciba Foundation Symposium Bilharziasis, held in commemoration of Theodor Maximillan Bilharz, edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A. Little, Brown and Company, Boston, 1962. Price: $11.50.

Protein Metabolism, Influence of Growth Hormone, Anabolic Steroids and Nutrition in Health and Disease, an International Symposium, sponsored by Ciba, Chairman A. Querido, Leyden. Edited by F. Gross, Basle, Springer Verlag, Berlin, 1962.

Moving Into Manhood, by W. W. Bauer, B.S., M.D., LL.D., Director of Health Education, Emeritus, American Medical Association, Doubleday and Company, Inc., Garden City, New York, 1963. Price: $2.95.

Annual Report for the Year 1962, The South African Institute for Medical Research of Johannesburg. Published by The South African Institute for Medical Research.

Ariel, Essays on the Arts and the History and Philosophy of Medicine, by Felix Marti Ibanez, M.D., Editor in Chief of *M.D.*, the medical newsmagazine, New York, Former Professor and Director of the Department of the History of Medicine, New York Medical College, Flower and Fifth Avenue Hospitals, M.D. Publications, Inc., New York. Price: $6.50.

Current Diagnosis Treatment, by Henry Brainerd, M.D., Professor of Medicine and Chairman, Department of Medicine, University of California School of Medicine, San Francisco, and Physician in Chief, University of California Hospitals, San Francisco; and Sheldon Margen, M.D., Associate Professor of Human Nutrition, Department of Nutritional Science, University of California (Berkeley), and Associate Professor of Social Welfare, University of California (Berkeley) Research Biochemist, Department of Biochemistry, University of California School of Medicine (San Francisco), and Milton J. Chatton, M.D., Assistant Clinical Professor of Medicine, University of California (San Francisco) and Stanford University (Palo Alto) Schools of Medicine, and Geriatric Consultant, Palo Alto Medical Clinic. Lange Medical Publications, Los Altos, California, 1963. Price: $9.50.

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WASHINGTON

Polls Show King-Anderson Losing Favor

Recent polls carried on by members of Congress show constituents oppose King-Anderson type legislation. In 20 polls this type of legislation was opposed by more than two to one (134,973 against 58,121).

Polls of their constituents have been reported so far this year by 23 congressmen. Only one of these polls (Arizona's 2nd District) showed a majority in favor of the social security approach. The opposition ran as high as 93 per cent in one poll, 85 per cent in three polls and 80 per cent in one.

The polls were taken in all sections of the country and increasing opposition was shown in both the overall picture and in individual polls.

In 52 such polls in 1961-1962, a majority in 33 opposed King-Anderson type legislation and in 19 polls favored it. This substantial margin of polls in opposition now has become 22 to one.

In a poll carried out in Missouri, the opposition was 65 per cent with 32 per cent favoring the legislation.

House Passes Anti-Air Pollution Measure

The House of Representatives passed and sent to the Senate an anti-air pollution bill that would authorize the spending of up to $90 million in federal funds over a four year period. It would empower the Secretary of Health, Education and Welfare, in some cases, to go into court and seek finding orders against industrial and other air contamination.

The bill passed the House by a vote of 272 to 103, some congressmen considering it a further encroachment of state rights.

Under the bill the HEW department could call local, state or regional conferences on specific pollution hazards, after which recommendations would be made for correcting the problems. States would have first responsibility for imposing corrective steps.

The federal government could act in court only in cases of interstate pollution, and when a governor of a state certified that he had asked and failed to win cooperation of another state.

Appropriations

A bill before the Senate in early August was an appropriations bill which would furnish funds for the Public Health Service (including the National Institutes of Health), the Food and Drug Administration and other bureaus of the Department of Health, Education and Welfare. As approved in committee, the bill would restore the $18 million which the House had cut. The Budget Bureau proposed reductions of $10.6 million for the cancer institute and $13.8 million for the heart institute. For hospital construction aid, the Budget Bureau recommended $179,514,000 and the House set the figure at $177,914,000, but the committee raised it to $228,214,000, or $2,006,000 more than the current year's funds.

High School Debate

A specific subject based on "What Should Be the Role of the Federal Government in Providing Medical Care to the Citizens of the United States?" is expected to be debated by more than 50,000 high school students this year. Long before the opening of schools and before the specific subject was recommended to high school debate leagues by the National University Extension Association, the Health Insurance Institute had answered more than 2,000 requests for health insurance information.

It was predicted that the specific subject would be "Resolved: That Social Security Benefits Should Be Extended to Include Complete Medical Care."

A House Administration Committee scheduled a meeting in early August and approval was expected of the Senate-passed resolution authorizing publication of a guidebook on medical eldercare designed for use of high school debaters. Members of Congress and committees were receiving a great many requests for material on this subject.

The Health Insurance Institute has compiled a booklet entitled "Outline of Health Insurance," and is developing a special health insurance fact file containing selected institute publications and reprints of special health insurance stories. The fact file will analyze voluntary health insurance plans and indicate how they best meet the health care needs of all age groups in this country.

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Midwest High in Health Benefits

The Midwest led all regions of the nation in health insurance benefits received from insurance companies during 1962, the Health Insurance Institute reported recently in an annual report of estimates by states.

The 12 state area of the Midwest received $1,226,202,000 from insurance companies last year as compared to $1,106,266,000 received in 1961. This represents a 10.8 per cent increase for the states of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin.

In Missouri, there was a 10.4 per cent increase, from $82,486,000 in 1961 to $91,053,000 in 1962.

The total amount of health benefits paid to the American public by insurance companies in 1962 was $3,762,509,000, an increase of 10.8 per cent over the $3,394,498,000 distributed the year before, the Institute said.

The Institute estimated that, with the inclusion of benefits paid by Blue Cross-Blue Shield and other health care plans, health benefit payments by all insuring organizations in 1962 totaled $7.1 billion, up from 1961's total of $6.4 billion.

The South, while second to the Midwest in benefits with $946,646,000, was first in the rate of increase with a 12.9 per cent rise over the $838,781,000 paid Southerners in 1961, the Institute said.

The 16 state region includes Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia, and the Dist. of Columbia.

The nine Northeast states were third in total benefits paid by insurance companies with $906,013,000. This represents an increase of 7.8 per cent over the $840,480,000 paid in 1961 in Connecticut, Massachusetts, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont, according to the Institute.

The West (13 states) climbed from $608,971,000 in 1961 to $683,648,000 in 1962, to show an increase of 12.3 per cent for Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

The Institute said that all fifty states showed increases.

The country's two largest states in population —California and New York—led in total benefits received from companies. California was first with $460,907,000, and New York was second with $369,478,000, with respective increases of 11.2 per cent and 2.5 per cent over 1961.

Alaska, the 49th state, had the lowest benefit total with $3,386,000. At the same time, Alaska had the highest rate of growth over the previous year with an increase of 42.5 per cent from $2,376,000.

Hospital Benefits Increased

The American public received an average of $5.2 million a day from insurance companies during 1962 to help pay for hospital care, the Health Insurance Institute reported.

The $5,201,000 average daily payments added up to a total of $1,899,000,000 paid out in hospital expense benefits during the year by insurance companies, the Institute said. It pointed out that the benefits included payments made under hospital expense policies as well as that portion of benefits under major medical expense policies which went for hospital bills.

Rapid Growth

In recent years there has been tremendous growth in the amount of hospital expense benefits paid by insuring organizations, stated the Institute in reporting on an analysis of hospital benefits paid during 1952 and 1961, the first and last years for which complete data are available.

In 1952, all insuring organizations combined paid a total of $1,072,000,000 in hospital expense benefits, said the Institute. This figure climbed to $3,725,000,000 in 1961 for an increase of 247 per cent.

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C. G. STAUFFACHER, M.D., Secretary

Missouri Academy of General Practice

We assume that you have reserved the dates of Saturday and Sunday, October 26-27, 1963, to attend the 15th Annual Scientific Assembly of the Missouri Academy of General Practice, to be held at the Muehlebach Hotel in Kansas City.

The program will include the following: Saturday, October 26, 9:00 a.m. to 10:00 a.m., Annual Business Meeting of the Academy. From 10:00 a.m. to 12:30 p.m., Symposium on Physical Medicine and Rehabilitation. The speakers and subjects are: Joseph N. Schaeffer, M.D., Chairman, Department of Physical Medicine and Rehabilitation, Wayne University School of Medicine, Detroit, Mich., "Physical Agents in the Home and Office Management of Arthritis," and "Physical Agents in the Home and Office Management of Hemiplegia." Don L. Rose, M.D., Professor, Physical Medicine, University of Kansas Medical School, Kansas City, Kan., "General Principles Involved in the Rehabilitation of Arthritis." Lester E. Wolcott, M.D., Chief, Section of Physical Medicine and Rehabilitation, University of Missouri Medical School, Columbia, "General Principles Involved in the Rehabilitation of the Hemiplegic."

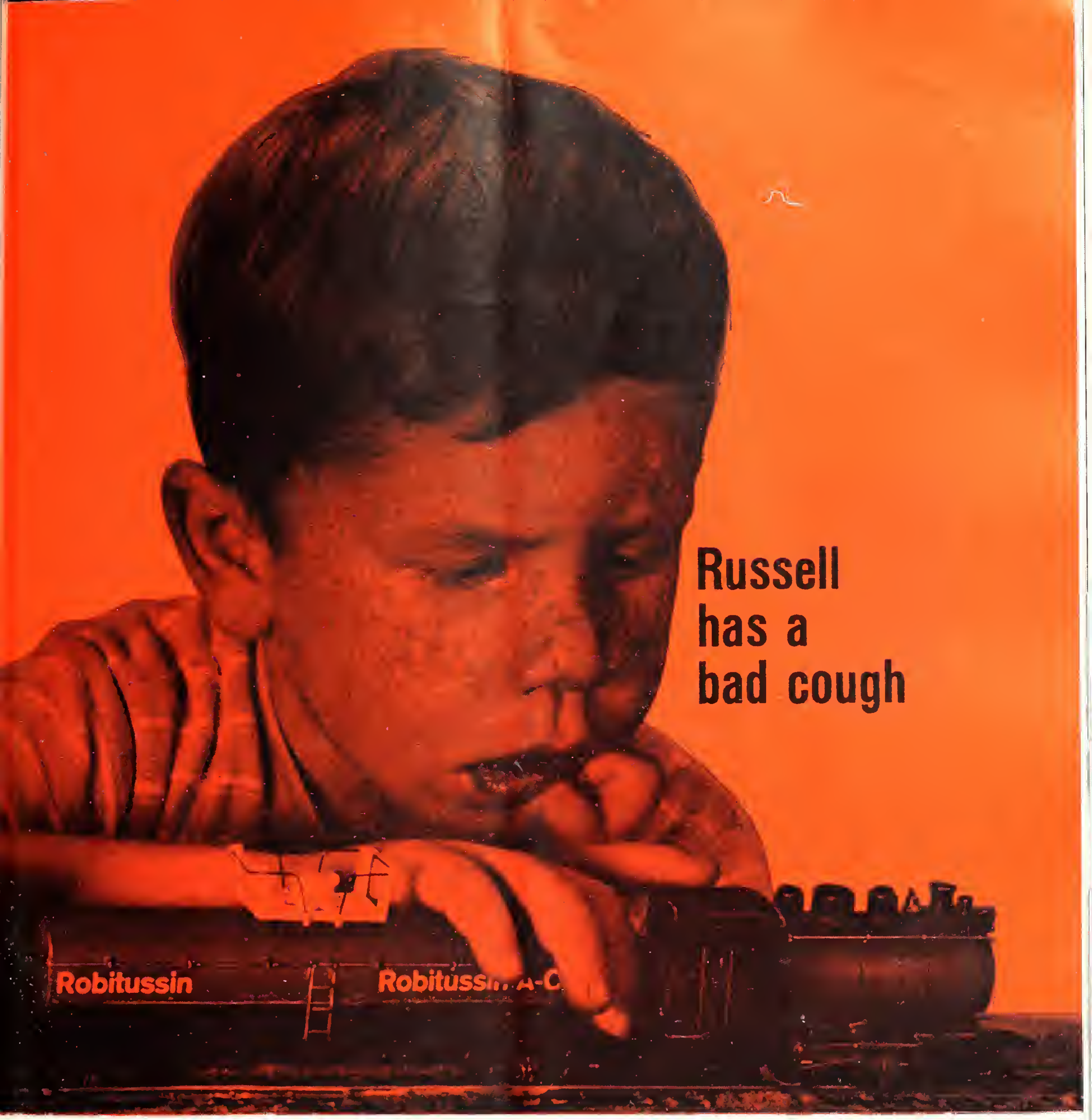
From 2:00 p.m. to 5:00 p.m., Symposium on Eye, Ear, Nose and Throat. The speakers and subjects will be: Don C. Baker Jr., M.D., New York, N. Y., "Significance of Hoarseness in Various Age Groups," and "The Tonsil and Adenoid Problems in Children." Harold Gifford, M.D., Omaha, Nebr., "Ocular Trauma," and "External Diseases of the Eye." G. O. Proud, M.D., Professor of Otolaryngology, Kansas Medical School, Kansas City, Kan., "Hearing Loss in Children." Larry Calkins, M.D., Department of Ophthalmology, University of Kansas Medical Center, Kansas City, Kan., "Corticosteroids in Ocular Disease."

Sunday, October 27, 9:00 a.m. to 12:30 p.m., Symposium on Neurology. The speakers and subjects are: C. H. Millikan, M.D., Mayo Clinic, Rochester, Minn., "Current Concepts in the Treatment of Occlusive Cerebrovascular Disease," and "The Differential Diagnosis of Dizziness." Dewey K. Ziegler, M.D., Kansas City, Mo., "The Differential Diagnosis of Brain Tumors Versus Cerebral Vascular Disease." Violet Matovich, M.D., Chief, Division of Neurology, University of Missouri Medical School, Columbia, "The Significance of Muscle Weakness." Frank M. Howard Jr., M.D., Mayo Clinic, Rochester, "The Common Pressure Neuropathies," and "The Diagnosis and Treatment of Parkinsonism."

From 1:30 p.m. to 4:30 p.m., Symposium on the Management of Related Medical-Surgical Problems. The speakers and subjects are: Ormand C. Julian, M.D., Professor of Surgery, University of Illinois College of Medicine, Chicago, "The Prevention of Strokes," and "Anti-Coagulants and Surgery." E. L. Frederickson, M.D., Professor of Anesthesiology, University of Kansas Medical Center, Kansas City, Kan., "Anesthesia Problems Caused by Anti-Hypertensive Drugs." William M. McConahey, M.D., Professor of Medicine, Mayo Clinic, "Medical vs. Surgical Treatment of Hyperthyroidism," and "Treatment of the Non-Toxic Goiter." Arthur Klotz, M.D., Professor of Medicine, University of Kansas Medical Center, Kansas City, Kan., "Gastric Cooling in the Treatment of Peptic Ulcer."

Following each symposium there will be a panel discussion on questions submitted by the audience with the symposium speakers participating. Specified times will be set aside during the two day program for visiting the 46 anticipated technical exhibits.

On Saturday evening at 7:30 a.m., the Annual President's Installation Banquet will be held. Dr. Walter T. Gunn, St. Louis, the outgoing President, will install the incoming President, Dr. Edson C. Carrier, Kansas City, on that occasion. The featured banquet speaker will be, Hans G. Clamann, M.D., Chief, Department of Bioastronautics, School of Aerospace Medicine, Brooks AFB, Tex., who will discuss, "Space Travel and Space Medicine." The Local Arrangements Committee for this 15th Annual Session is composed of Dr. Edson Carrier, Kansas City, Chairman; R. Stacy Long, Kansas City, and Dr. I. C. Fowler, North Kansas City.



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Woman's Auxiliary

Mrs. L. S. Crispell

The new National President, Mrs. C. Rodney Stoltz, has chosen as her theme "Serve and Communicate." She wrote in the May issue of the *National Bulletin* that "The prime objective of the program committee will be to prepare each member to speak for medicine with knowledge and conviction—to 'Serve and Communicate.' The only thing that will bring lasting expansion to our public service and effectiveness is the better education of our own members." And "an important part of our effort is lost if we cannot get good publicity for projects which benefit the public."

This theme is timely and should serve as a challenge for the Auxiliary activities during this year. Mrs. Stoltz recommends that we consolidate ideas through committee grouping in three general categories: (1) technics of operation, (2) orientation and education of our members, and (3) service to others. "If committees work in groups, we could have a more effective exchange of methods and ideas, avoid the waste of duplicated effort and pinpoint the common value of our separate efforts." Our auxiliaries will soon be receiving material on this "SAC" program and the theme will be incorporated into our own Fall Conference workshop in Joplin in October and in the reports made for the year.

A good example of "SAC" was included in the excellent report of the Marion-Ralls-Shelby Auxiliary in the recent *Quarterly Bulletin.* They are recruiting nurses not now in service to take refresher courses and again practice their profession—in hospitals, doctors' offices, or where they are needed, either on a full or part-time basis. Other auxiliaries told of especially fine community projects. Callaway County's "Friendship Tea" inviting business and professional people from the community was an excellent approach to good public relations. What finer way to tell our story!

This week it was my pleasure to visit the South Central Counties Auxiliary at their meeting in Houston. The group meets four times a year and includes members from seven widely-scattered towns. Their medical society meetings are better attended when the wives are included for dinner.

The National Auxiliary gift to AMAERF for the year was $278,410.35—an increase of $35,000 over last year. Missouri's contribution was $4,676.42 with an increase of $1,154.60.

What is your local society doing for "Operation Hometown"? Have they asked for your help or requested a specific course of action? Are your members interested enough to write letters to congressmen and talk to others? Dr. Annis said that "it would be unmitigated folly for us to allow ourselves to become complacent and inactive on the assumption that our enemies will bivouac until sometime next year." It only takes a few minutes to write a letter—remember how Lucille Ferris put us to work so effectively at our own Convention! Your voice counts—express yourself!

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WILLIAM T. GRIFFIN, M.D.; RONALD D. LINHARDT, M.D.,
and DAVID G. HALL, M.D., *Columbia*

Advanced Molar Pregnancies: Diagnosis and Management

The problem of massive, far advanced hydatidiform mole presents a critical diagnostic and therapeutic challenge. In the absence of diagnostic molar tissue, the recognition of this disease entity becomes difficult. Delay in active therapeutic intervention may result in massive maternal blood loss.

This paper was presented before District VII meeting of the American College of Gynecology at Little Rock, Ark., Sept. 21, 1962.

Dr. Griffin is Instructor in Obstetrics and Gynecology; Dr. Hall is Associate Professor and Chairman of the Department of Obstetrics and Gynecology, University of Missouri School of Medicine, Columbia.

The phenomenon of hydatidiform mole and its various clinical manifestations have been well documented.

Although the diagnosis of this entity is easily accomplished by gross and microscopic examination of the products of conception, considerable difficulty may exist is establishing an accurate diagnosis prior to obtaining molar tissue. This problem is encountered most frequently in the consideration of large, far advanced molar pregnancies.

Although most hydatidiform moles present clinically as inevitable or incomplete abortions and the physician's task comparatively simple in terms of diagnosis and management, in certain instances, the molar pregnancy advances in size, no tissue is spontaneously extruded, difficulties in differential diagnosis are encountered, and problems involving maternal morbidity and mortality become significant.

It is the purpose of this paper to describe four cases of advanced molar pregnancy, the problems associated with accurate diagnosis and the therapeutic approaches utilized in the resolution of this somewhat uncommon problem.

The incidence of hydatidiform mole by various authors in the United States is reported to be from 1 in 1,500 to 1 in 2,500 pregnancies.[4, 6] At the University of Missouri Medical Center eight hydatidiform moles have been encountered in 6,000 deliveries, or an incidence of 1 to 750 pregnancies. (See table 1.) Of these eight hydatidiform moles, four have presented in the classical manner, with vaginal bleeding, uterine contractions and the passage of obvious molar tissue. These patients were treated with blood replacement if necessary, oxytocics and thorough curettage of the endometrial cavity. Postoperatively, all of the patients were followed in the accepted manner with serial quantitative gonadotrophic assays.

The remaining four hydatidiform moles, however, were classified as advanced and massive. Because of difficulties in accurate diagnosis, as well as the hazardous clinical course of these patients, the case histories are briefly enumerated for special consideration.

Case 1. This 26 year old white female, gravida 5, para 4, aborta 0, with last menstrual period Dec. 12, 1961, and a calculated expected delivery date of Sept. 2, 1962, was admitted to the hospital because of vaginal bleeding.

The patient consulted her family physician in February of 1962 because of severe nausea, vomiting and vaginal bleeding. Bleeding ceased spontaneously except for slight brownish vaginal discharge and the patient was asymptomatic with the exception of rapid abdominal enlargement until admission.

Physical examination revealed blood pressure of 100/60, pulse 124. Abdominal examination revealed a mass arising from the pelvis to 20 centimeters above the symphysis pubis. The mass was smooth, soft and non-tender. No fetal heart tones could be heard and no fetal parts were palpable. Pelvic examination showed the cervix uteri to be long and closed, dark blood issuing from the external os. The uterus was compatible in size with a 24 week pregnancy. No peripheral edema was present.

Laboratory data revealed a marked anemia (hematocrit 24 per cent).

Three days following hospital admission the patient had sudden massive vaginal bleeding and quantitative fibrinogen assay at that time revealed a value of less than 150 milligrams per cent. No molar tissue was passed. Bleeding continued in the face of multiple rapid whole blood transfusions and the patient was taken to the operating room, where a large molar pregnancy was delivered by hysterotomy. Large theca lutein cysts were noticed to exist bilaterally.

The patient was later subjected to dilatation and curettage because of her persistent bleeding with recovery of additional molar tissue. Her hematocrit at that time was 26 per cent.

The patient was readmitted to the hospital on April 26, 1962, again complaining of severe vaginal bleeding. The patient was in shock at the time of this admission.

Examination revealed the uterus to be 12 to 14 weeks size. Whole blood administration was carried out and on April 27, 1962, the patient was taken to the operating room and an abdominal hysterectomy performed without incident. She was discharged from the hospital on May 21, 1962 in good condition.

Final tissue diagnosis was: Invasive mole.

This patient has been followed at regular intervals in the Outpatient Clinic since discharge and at the present time is well, with negative pregnancy tests.

Case 2. This 18 year old gravida 2, para 1, aborta 0, was admitted to the University of Missouri Medical Center on March 29, 1962.

Her chief complaint on admission was that of vaginal bleeding of approximately one month's duration and swelling of the legs and ankles. The last menstrual period occurred Nov. 23, 1961 and no further vaginal bleeding occurred until March 1, 1962, following which the patient had daily spotting.

Physical examination on admission revealed a blood pressure of 140/80, pulse 80, and temperature 98 F. Physical examination revealed a pale white female in no acute distress.

Examination of the abdomen showed the uterine fundus to be 24 centimeters above the symphysis pubis, soft, somewhat cystic, with no audible fetal heart tones and no palpable fetal parts. Pelvic examination showed the cervix to be long and closed and 3+ dependent edema was present.

Laboratory data revealed the hematocrit to be 25 per cent, pregnancy test positive and urinary albumin to be 300 milligrams per 24 hours. Quantitative gonadotrophic titers were positive in a urine dilution of 1:256.

On April 4, 1962 the patient was taken to the operating room and there a large hydatidiform mole was removed by hysterotomy. Large theca lutein cysts were present bilaterally.

The patient has been followed as an outpatient and both pregnancy tests and physical examinations have remained negative.

Case 3. This 21 year old white married female, gravida 1, para 0, was admitted to the University of Missouri Medical Center Hospital in shock from vaginal blood loss. Her last menstrual period occurred in October of 1961, followed by intermittent vaginal bleeding. Four or five episodes of profuse, self-limited, vaginal bleeding had occurred. For two weeks prior to admission the patient noted fever, and cough, productive of blood tinged sputum. The referring physician stated that the fetal heart tone was audible on her last visit to his office.

Physical examination on admission revealed a blood pressure of 160/110, pulse 160, respiratory rate of 26 to 30, and temperature of 102 F., rectally. The patient was semicomatose, pale and in acute respiratory distress. There were coarse rhonchi with a few rales in both lungs. Left cardiac enlargement was suspected by clinical examination. The uterine fundus was 24 centimeters above the pubic symphysis, and the uterus somewhat soft with no palpable fetal parts.

Admission hematocrit was 12 per cent, with a hemoglobin of 4.3 grams per cent, and white blood count of 16,550. Quantitative fibrinogen assay was normal.

Approximately four hours after admission the patient again developed massive vaginal bleeding. Whole blood was administered and the patient taken to the operating room in poor condition, and a large hydatidiform mole was delivered by hysterotomy. Huge bilateral theca lutein cysts were observed to be present.

Postoperatively, the patient continued to have marked respiratory distress, remaining dyspneic and cyanotic. Respiratory difficulty increased and 16 hours after admission to the hospital she expired.

TABLE 1

DATA ON PATIENTS WITH HYDATIDIFORM MOLES

Age	*Toxemia*	*Hyper-emesis*	*Abnormal bleeding*	*Molar tissue passed*	*Blood given in ml.*	*Hypofibrino-genemia*	*Gestational age, wks.*	*Uterine size, wks.*	*Cervix*	*Quant. go-nadotrophins*
18	Yes	Yes	Yes	Yes	500	...	24	16	Open	1:512
22	No	No	Yes	Yes	...	...	16	12	Open	
45	No	No	Yes	Yes	1000		12	12	Open	
24	No	No	Yes	Yes	...	...	8	8	Open	1:16
22	No	No	Yes	No	5500	< 150 mg. %	12	24	Long closed	1:128
18	Yes	Yes	Yes	No	2500	No	12	24	Long closed	1:256
21	Yes	Yes	Yes	No	3500	No	16	30	Long closed	...
35	No	No	Yes	No	4000	No	8	20	Long closed	1:512

An autopsy was not permitted. Pathologic diagnosis on the tissue removed at hysterotomy was: Benign hydatidiform mole.

Case 4. This 35 year old Negro female, gravida 9, para 7, aborta 2, was admitted to the University of Missouri Medical Center Hospital on Feb. 13, 1962. Her chief complaint was that of abnormal intermittent vaginal bleeding of approximately two and a half months' duration.

Examination on admission revealed a blood pressure of 90/50 and pulse 88.

Physical examination revealed a somewhat pale Negroid female in no acute distress, with an abdominal mass arising from the pelvis and extending 20 centimeters above the pubic symphysis. The tumor was smooth, somewhat cystic and fetal presence could not be confirmed by either ausculation or palpation. Pelvic examination revealed the cervix to be long and closed with some dark blood issuing from the external os.

Hematocrit on admission was 26 per cent, clotting time within normal limits and the urinalysis normal. Qualitative analyses for urinary gonadotrophins were positive and quantitative assay was positive in dilutions in 1:512.

On Feb. 28, 1962 the patient was taken to the operating room where a total hysterectomy was performed with a huge hydatidiform mole in situ being removed. The patient also had large theca lutein cysts bilaterally. Microscopic examination of the tissue revealed a benign hydatidiform mole.

Analysis of Cases

The menstrual histories of these patients were compatible with pregnancies of from 8 to 16 weeks. All patients were found to have uterine enlargement, with the fundus from 16 to 24 centimeters above the pubis. All patients were anemic with histories of vaginal bleeding, varying from brown spotting to massive painless blood loss, requiring multiple blood transfusions. Gonadotrophic titers varied from 21,120 mu to 84,000 mu, on urine dilutions of 1:128 to 1:512. Two of the four patients had severe toxemia and hyperemesis. One patient developed hypofibrinogenemia. All patients were found to have a complete absence of gross and radiographic evidence of fetal detail.

Vaginal bleeding was the most significant symptom presented by all four patients. No molar tissue was passed spontaneously in any instance. The minimal amount of blood required for each of these patients was 2500 ml. Two patients developed massive uterine bleeding with accompanying symptoms of peripheral vascular collapse.

Diagnosis

Although the absolute diagnosis of hydatidiform mole depends upon gross and microscopic appearance of the products of conception, absolute diagnosis in massive advanced moles must, in certain instances, be secondary to active therapeutic efforts, designed to minimize maternal blood loss. The presumptive diagnoses of advanced molar pregnancy, in the instances cited, were established, using the following criteria: Size of uterus out of proportion to history; persistent abnormal bleeding; the appearance of toxemia prior to the 22nd week of gestation; soft, symmetrical uterus, with no palpable fetal parts; absence of fetal heart tones; absence of radiographic evidence of fetal skeletal detail; positive urine gonadotrophin tests, with dilutions greater than 1:200.

It is important to bear in mind that the preoperative diagnosis of advanced molar pregnancy involves a consideration of all the aforementioned criteria and that any one of these alone is merely suggestive of this disease entity.

The differential diagnostic entity of greatest clinical concern in each of these cases was the possible presence of an early multiple pregnancy. Active therapeutic intervention was instituted because of massive continual vaginal bleeding, coincident with a presumptive diagnosis of hydatidiform mole.

Therapy

Two major therapeutic approaches considered in each of these advanced molar pregnancies were: (1) oxytocic stimulation in hopes of emptying the uterus vaginally,[8] and (2) abdominal hysterotomy.[4, 6]

Because of the presence of relatively long, closed cervices and the existence of massive vaginal bleeding, oxytocic stimulation was deemed inadvisable. Each of these advanced molar pregnancies was delivered abdominally, three by hysterotomy alone and one by hysterectomy. Two were emergency procedures because of the extensive vaginal blood loss. Of the two remaining patients, one was delivered by elective hysterotomy because of uterine size, closed cervix and bleeding and one was delivered by hysterectomy because of age and parity.

Discussion

In 1940 Hertig and Edmonds traced the origin of hydatidiform mole to pathologic ova. It was shown from their detailed study that from 3 to 4 per cent of all pregnancies might potentially result in hydatidiform moles. Nilsson,[1] in 1957 found that 30 per cent of spontaneous abortions exhibited hydatidiform degeneration as opposed to only 2 per cent of legal and criminal abortions.

In 1955 Alter and Cosgrove[2] presented a series of 93 moles and categorized them into two separate types—"abortus" and "massive," undoubtedly the most common type being the abortus. There is little controversy about the diagnosis and management of the abortus mole. This is not true of the massive mole, where the uterus is enlarged to the umbilicus or above and no molar tissue is passed spontaneously by the patient. The problems of sepsis, toxemia, anemia, hemorrhage and acquired coagulation defects are much more prominent in the massive or advanced molar pregnancy.

Aside from the intriguing diagnostic challenge presented by patients with advanced molar pregnancies, some speculation may be entertained as to the safest and most effective method of emptying the uterus of its abnormal conceptive products.

Most authorities advocate hysterotomy as[4, 6] the procedure of choice in the advent of advanced molar pregnancies accompanied by a long closed cervix. However, because of the broadened utilization and popularity of parenterally administered oxytocic agents for uterine evacuation, this therapeutic modality is perhaps most often selected and utilized in the treatment of molar pregnancies.

In view of the experiences cited it is our belief that in advanced molar pregnancies, the large size of the uterus, associated with lack of cervical effacement and dilatation, makes hysterotomy the preferred mode of uterine evacuation.

Summary and Conclusions

1. Advanced molar pregnancies occurring at the University of Missouri Medical Center have been reviewed.
2. Accurate diagnosis of advanced molar pregnancies may be difficult.
3. Complications such as sepsis, toxemia, clotting defects and hemorrhage are more evident in massive moles.
4. Certain advanced molar pregnancies are best treated by evacuation by hysterotomy.

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HENRY C. SWEANY, M.D., ***Mount Vernon***

New Faces on an Old Problem

The continued prevalence of cases of tuberculosis in spite of the reduced death rate, the finding of cases and the variations of the true tubercle bacilli are discussed and statistics from the Missouri State Sanatorium are given.

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Many practicing physicians have become justifiably perplexed by new developments in the field of tuberculosis. For their benefit, let them be assured that nobody has escaped the bewilderment, even those actively engaged in the work. As with other infectious diseases, discoveries have changed ways of seeing the disease and adjustments of vision and method are continually necessary to meet new challenges that arise.

When effective antituberculous drugs were first discovered some years ago, cautious predictions were made that soon tuberculosis would be a thing of the past. But after more than a decade of effective antimicrobials which have made the new surgical technics possible, the disease is still going strong. There is, as much as ever, the need for an all-out effort in antituberculosis activities.

Part of the failure of the drugs to eliminate tuberculosis may be ascribed to the simple fact that they are not easy cure-alls, though some take them to be. Part of the difficulty lies in the fact that it is still necessary to locate cases before they can be treated with either drugs or surgery, and that the "hidden" cases in the community may still go on spreading tuberculosis in exactly the same way as ever. And, curiously, part of the problem seen today is the direct result of the use of antimicrobials. I refer to the increase in drug resistant strains of tubercle bacilli and also to the discovery of many natural variants of bacilli which was given impetus by the work on resistant strains.

I propose first to mention some present-day clinical and laboratory problems with tuberculosis, and then to discuss in greater detail the new picture of the tubercle bacillus that has emerged in recent years—a picture which at this stage is not entirely clear.

There are still many ways in which tubercle bacilli become transplanted to virgin soil and set up infections, all the way from a small healing focus to an insidious or fulminating disease. Most of these infections have come from some source within the family circle, but there are also the many human derelicts who run at large without any thought of the disease and deaths they may cause. The infections they carelessly or willfully pass on to their fellow men may be reflected in the morbidity and mortality for years and decades to come. Those leaving the tuberculosis hospital without medical advice are in the same category. Just one open case, innocent or otherwise, may infect dozens before it is discovered or apprehended.

What are some of the reasons for this situation? As with other diseases having a quiescent carrier status, it is well to contemplate the nature of the occult phases of the disease. Practically every tuberculosis infection exists for years, decades or a lifetime in the body; many of these infections become active after long quiescence, like an underground river that comes to the surface after flowing many miles under the earth. Although public health activities with the new drugs and surgery have reduced the death rate more than tenfold in the last half century, the "underground rivers" (carriers) are still flowing on. For example: According to Dr. Charles Brasher, the active cases entering the Missouri State Hospital have not decreased but on the contrary, for 1961 and 1962, have increased slightly. Of course, this has been largely due to better case finding rather than a true increase. More hidden cases are being found and brought in for treatment. It is also due to the use of better laboratory diagnosis in finding cases and eliminating non-tuberculous diseases, but such findings indicate that the disease is still deep rooted and a thorough search is needed to find and cure all sources of infection.

Several groups of patients present special problems. The first is the recalcitrant patient, one who resists proper treatment and either refuses to enter a hospital at all or leaves before he is cured. Fortunately that source of infection should be gradually stopped by use of the new commitment law in Missouri and other states. These laws, employed in a humane manner, should serve in stopping the dangerous leaks of infection. Another group which causes problems in treatment as well as diagnosis is the aged. As a result of treatment and possible cure of the acute cases in the younger people, the age level of cases entering the hospital has risen gradually over the years from 46 in 1953 to 54 in 1962 with 56 per cent of all patients admitted over 60 years of age. Although there has been a decline in all age groups over the country, the old age groups have decreased little.

Furthermore, with old age there comes the vast number of degenerative conditions which not only complicate the treatment of tuberculosis but require a thorough understanding and practice of internal medicine as well. Few people past 65 can be safely given surgery. Many cases must go home as quiescent or maximal hospital benefit cases but not arrested, later to become active and run the risk of spreading the disease. This is quite different from the recent infection in a young person where there should be recovery in 99 per cent of cases with proper diagnosis and treatment.

Of course, location of all foci of infection is important. A movement is now on foot to make a study of mental and penal institutions and nursing homes, and to follow up more thoroughly cases found in private practice, industry, general hospitals and clinics, similar to the programs now carried on in schools for discovering sources of infection.

It should be clear that faster gains than are being made are necessary to reduce the ¾ of a billion dollars a year spent in this conutry on tuberculosis. The buildup of new cases is taking place as fast or faster than patients are being cured. As pointed out before, a new case may appear at any time during life.

The problems most important for the laboratory study of tuberculosis, however, are the result of changes in knowledge of the organism itself. In the early days of bacteriology, Robert Koch firmly taught that there was only a single strain, which he called Bacillus tuberculosis, but there has been a continuous procession of discoveries about this organism until, in the laboratory, one scarcely knows what to expect next in the way of variation in what are tentatively designated as "atypical" or "unclassified" tubercle bacilli. Only extensive study has made possible the beginning of understanding and a rational approach.

Reviewing some of these discoveries, the first breakthrough after Koch's great discovery was the finding of the avian and later of the bovine strain of the "tubercle bacillus." Following this, strains of acid fast forms were isolated from practically every known animal, including reptiles, birds and mammals; in addition, a widely disseminated spread of acid fast saprophytes was discovered. All of these were classified under the newly designated term "mycobacteria."

Of recent years, new variants of acid fast bacilli have been isolated from cases, and investigators are faced now with evaluating their significance in infections. Sometimes it is difficult to judge whether a given strain is "typical" and what to do with it if it is not.

Although Corper,[1] Griffith,[2] Feldman[3] and others many years ago reported certain variations from what was considered normal, the discovery of bacterial resistance to antimicrobials gave impetus to the study of variant strains, which is widening as new drugs are used.

Furthermore, it has been reported by Bogen and Skillen[4] that aside from strains that have become resistant to drugs after treatment, approximately 70 per cent of death-dealing infections in India are caused by bacilli that are naturally resistant to INH and will not kill guinea pigs. A half century ago, a case with a strain that would not kill guinea pigs was not considered tuberculosis. Finally, strains from certain African infections have been found recently to vary from the European-American strains.

This wide variation in mycobacterium calls to mind the variations that have taken place in other forms of life over the past because of genetic mutations. In most forms of life, the changes are slow, though the breeding of domestic animals offers good evidence that mutations are taking place all the time. However, the changes in the rapidly growing bacteria have not required such long intervals of time as those in species of living things with a longer life span. The problem of variation in bacilli is a problem of genetics, and that science is helping to explain some of the enigmas.

The variations have continued to appear and are causing problems in epidemiology, diagnosis and treatment which the earlier workers did not encounter, largely because the atypical forms were crowded out by the heavy growth of typical bacilli. The use of antibiotics, by cutting down the numbers of typical forms, has made the problem of atypical forms a significant one.

As greater numbers of "pigmented" and other atypical growths were found, an investigating panel was held in Milwaukee May 25, 1955, with Dr. Wm. H. Feldman as moderator. As a result, Dr. Elmer Runyon was assigned the task of collecting and classifying the 200 or more atypical cultures he had collected. It was several years before he was able to make a report, but in the meantime a number of workers had made significant observations and reports.

The first report was by Buhler, Pollak and Woods[5] at Kansas City. These authors reported on what they first called "yellow bacilli" found in lesions that resembled typical tuberculosis clinically and on x-ray. The bacillus was given the name of M. Kansasii, as it was found in the state of Kansas.

Tarshis,[6] over a period of many years, reported on many variants from the "normal" acid-fast bacilli usually found.

However, the most outstanding of all reports on these atypical or unclassified strains was by Crow and associates[7] in Georgia. These workers reported 64 out of 69 atypical cultures of bacilli from 1950 to 1955 which were called "Battey bacilli" after the name of the hospital in Rome, Georgia, from which they were isolated. Quite recently Corpe and Sturgis[8] have submitted a series of pathologic slides of some of these cases to a panel of pathologists who in all but a few cases were unable to distinguish the lesions from lesions of typical tuberculosis.

Similar results have been found in Florida by Lewis, Dunbar and Associates.[9] In addition, these authors have found many of the strains endemic in the soil and in market vegetables. The true status of these bacilli is yet unsolved.

In the midst of these and many other studies along the same line, Runyon made a tentative report listing 14 characteristics of the atypical bacilli. But the classification of the mass of over 200 cultures he had collected was first made on the basis of pigmentation of cultures. One group was made up of yellow, orange and brick-red growths, another group was a normal buff color that turned yellow on exposure to light, and a third was characterized by a normal color with a growth characteristic similar to that of avian bacilli. The first group was called "scotochromogen"; it has since been put in Runyon's tentative grouping as Group II; the one changing after exposure to light has been called a "photochromogen" and classed as a Group I; and the avian-like growth was called a Group III. Later a Group IV was added, including the strains that grow in less than 72 hours. Each of these groups, except Group II, has been divided into two subgroups, making seven in all. For practical purposes, however, it is adequate to consider only the four main groups.

Now to piece the jig-saw puzzle together. The "yellow bacillus" of Buhler, Pollak and Woods has been placed definitely as a Group I of Runyon; the constantly pigmented forms remains as Group II; the nonpigmented or "Battey" strains and the majority of the ones reported from Florida and other places in the South are placed in Group III and the rapid growers in Group IV.

As to the significance of each of these groups from a clinical standpoint, the Group I (photochromogens) cultures, or at least some of them, have been taken from human lesions almost identical with those found in tuberculosis, but they do not infect guinea pigs or other animals except as local abscesses. The Group II strains (scotochromogens) are rarely virulent, possibly never.

TABLE 1

A BREAKDOWN OF THE NUMBER AND TYPE OF GROWTHS ON PATIENTS WITH AFB ORGANISMS ON CULTURE

Group	*1 colony*	*2-3 colony*	*1 culture of 4c to +4*	*More than 1 culture*	*Referred cultures*	*Total*	*Per Cent*
I	0	0	0	8	0	8=	0.8
II	17	3	0	1	1	22=	2.2
IIIa	35	11	34	42	1	123=	12.3
IIIb	15	5	6	5	1	32=	3.2
IV	21	6	6	6	5	44=	4.4
TB	54	34	99	583*	1	771=	77.1
	(38.0%)	(57.9%)	(68.2%)	(90%)			
Total	142	59	145	645	9	1,000=	100.0

* Niacin positive (TB) cultures not classified as to amount of growth.

(Some chromogens at first thought to be Group II were later found to belong to a Subgroup IIIb.) The Group III strains have a variable virulence but in general they only produce local lesions in guinea pigs. They produce rather extensive disease in mice, especially if mucin is used in inoculating the animals, and occasionally slight disease in chickens and in the testicles of hamsters. There is no doubt about the presence of these bacilli in lesions in human lungs but whether they are "opportunistic" infections (on top of an old disease process) or whether they may cause a primary disease in a weakened host is yet to be proved with satisfaction. There has not been any proof yet that these strains are transmissible to persons in good health, but even if they become superimposed on a weakened host they still are significant. Many of the Group IV strains are saprophytes but M. fortuitum, which belongs in this group, has a considerable degree of virulence for man.

Even in the cases wherein the original cultures were typical, the bacilli may develop resistance to the antimicrobial drugs being used, and at any moment "atypical" or "unclassified" bacilli may appear in the cultures. These "atypicals" may have variable virulence and resistance to some or all of the known drugs. The epidemiology as yet is unknown.

It is important to consider geography in dealing with the disease-producing strains as well as the ones that have limited virulence. In this country alone, it is important to know what section of the country a certain bacillus comes from and perhaps even the time it appeared. The Group I cases reported around Kansas City by Buhler, Pollak and Woods may have been a transient finding, for they do not seem to be numerous now. Lester[10] noted a regional aspect of Group I bacilli outside of Chicago. In the South there is a widespread seeding of Group III forms suggesting the possibility of a climatic influence. The Group IV bacilli thus far have not been found to be more prevalent in one place than in another. The Group II strains, consisting of the highly pigmented forms, are mostly harmless saprophytes and need not cause any undue concern.

When one considers the world-wide variation, however, especially the Indian and African types, it behooves one to be cautious in classing strains as virulent, avirulent, or harmless saprophytes until a thorough study is made.

As of this moment for the State of Missouri, one can separate out the typical strains by applying Konno's[11] niacin test, a simple reaction which reveals the presence of niacin production by true tubercle bacilli. More than 80 per cent of significant strains are found by this test to be true tubercle bacilli. The fact that typical bacilli grow in cords or skeins is also helpful in identification. The atypical forms may then be grouped according to Runyon's classification.

In order to establish the incidence of typical and atypical forms, a survey was made in the Sanatorium laboratory of the different variant forms sent in from over the State of Missouri.[12] After several "trial runs" a carefully selected group of 1,000 cultures was taken from the many health centers over the state. There were no duplications. These cultures were typed according to the most recent methods with the following percentage figures.

Out of this total of 1,000 cultures shown in table 1, 77.1 per cent were "typical" bacilli or niacin positive strains and 22.9 per cent were niacin negative. These figures are slightly lower than those of Duffett[13] in St. Louis. Since a large number of these niacin negative strains represented single colonies, it is probable that a large percentage were "opportunistic" or even saprophytic. That is particularly true of the Group II growths in which 91 per cent were one to three colonies and only one had more than one culture. None had any good growth except one that was sent in as a culture with no history of the amount of growth on the first isolation. By careful work in preparation of the media, treating and planting the inoculum, this group can be largely eliminated.

The Group III growths resembled more the growths of typical bacilli having 62 per cent that had 4 colonies to 4+ growth or which had repeated growths.

In final analysis, one can say that 77.1 per cent of routine cultures respond to the tests for typical bacilli while 22.9 per cent are atypical or unclassified—a most significant percentage and one that must be seriously considered in the diagnosis and treatment of tuberculosis.

The resistance problem of the typical forms is now fairly well under control, especially where good laboratory work is done, but the atypical strains still cause much confusion both to the clinician and the laboratory man.

One more minor variation that should be mentioned is that of natural resistance. On the average, there has been reported from 1 to 7 per cent of bacilli having a resistance to drugs without ever having been exposed to the drugs. This shows, first, the variation that exists in bacterial populations, and second, the variation in methods of different workers. Hobby[14, 15] has made a report on a world-wide scale on natural resistance. Her opinion was that at this time there is little agreement from time to time and place to place over the world. In other words, the problem is now in a state of confusion—at least is unsettled. In work at the Sanatorium it was found that with the average dosage, natural resistance was found in about 3 per cent of cases. It varied with the drug involved and the concentration used. As the concentration of drug on the culture media decreases, the amount of growth increases, sometimes for some drugs up as high as 15 per cent in low dilutions.

As a result of all the changes taking place, a continuous readjustment of clinical and laboratory methods takes place as each new situation develops.

The field of tuberculosis study may be compared to that of physics. In the 19th century when physicists were sure that they had learned all there was to know about the nature of matter, everything was neat and clear cut. But everyone knows what has happened to the atom in the last few decades. Similarly, the tubercle bacillus, once thought to be a single red-staining, rigid rod is now known to be many different populations of organisms, with widely differing—and changing—characteristics. The final principles for classifying and relating them are yet to be discovered. Until further work can clarify the situation, it might be well to adopt a viewpoint expressed by Gangadharam, Cohn, Davis and Middlebrook[16] "that what are called 'strains' of tubercle bacilli can in reality be composed of mixed populations of bacterial cells with high or low infectivity and various degrees of pathogenicity." One might also add that there are many avirulent and pigmented as well as saprophytic forms that are either mutants of the parent strain or contaminants from without.

SUMMARY

1. A review of many phases of the changing tuberculosis situation has been presented.

2. Although the death rate has been reduced tremendously in the last half century, active cases are still found almost as commonly as ever, due largely to better case finding among the aged and better laboratory work with possible upsurge in incidence.

3. Contact in family circles is still the principal source of new cases; the problem of the careless, irresponsible case is still considerable and has been wisely considered by the new law to incarcerate the violators.

4. In many localities, more active cases are being found by surveys in schools, in penal and mental institutions, in hospitals, clinics, doctors' offices and in industrial plants.

5. The variations of true tubercle bacilli which exist in India and Africa as well as bacterial resistance (either developed or natural) against antimicrobials and the confusion caused by atypicals or "unclassified" bacilli, as shown partly in the four groups of Runyon, have created many perplexing problems for clinicians and especially for laboratory workers.

6. In Missouri, natural resistance runs around 3 per cent, but for individual drugs in low dilution of drugs may rise to 8, 10 or even 15 per cent.

7. Bacterial populations are probably made up of a heterogeneous mass of acid-fast forms having varying cultural characteristics and virulence, with the more genetically perfect (typical) strains predominating in the majority of clinical cases of tuberculosis.

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Pseudopapilledema

As THE TERM implies, pseudopapilledema closely resembles true papilledema. An anomalous optic disk elevation is not uncommon, and ophthalmoscopic examination frequently reveals what closely resembles papilledema when there is no increase in intracranial pressure and no inflammatory or demyelinizing process. An irregularly elevated, non-congested optic disk, lacking a physiological cup, and which shows no pathologic change in the retinal blood vessels should suggest the diagnosis of pseudopapilledema.

Pseudopapilledema is an anomalous elevation of the optic disk which closely resembles true papilledema, with no increase in intracranial pressure and no associated inflammatory or demyclinizing process. Pseudopapilledema should be suspected whenever an elevated, non-congested optic disk is seen without a physiological cup and non-dilated normal veins and arteries are seen passing over its surface. There will be no hemorrhages or exudates. The blind spot may be enlarged, visual acuity will be normal and the findings will remain the same on repeated examinations. Aggressive attempts to exclude brain tumor by neurosurgical investigation should not be undertaken in the absence of other signs and symptoms which on their own merit would indicate otherwise. A case history is included by way of illustration.

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CASE REPORT

A 10 year old white male was first noted to have bilateral "papilledema" on May 9, 1962, during a visit to the medical clinic of Cardinal Glennon Memorial Hospital. He was brought to the clinic because of a paucity of speech at home, behavior problems and "poor mental development." He was admitted to the hospital for an evaluation. The past history is significant in that although the mother's pregnancy and delivery, and the patient's birth were not abnormal, the patient fell from a four foot height striking his head at age 3 months, at age 15 months he again struck his head in a fall and at age 24 months he was struck by an automobile and rendered unconscious for two days. There was a linear fracture of the right parietal area revealed on x-ray at that time. The patient has had numerous episodes of acute upper respiratory diseases and allergic conditions, and has been followed in the Psychiatric Clinic for behavior problems. Examination and testing revealed, in addition to the bilateral "papilledema," some mental retardation (Stanford Binet I.Q. = 76); skull films, chest films, optic foramen films, E.E.G., ventriculography, lumbar puncture, chromosome analysis and routine laboratory studies were all within normal limits. Examination of the eyes was within normal limits except for the fundus changes. The vision without correction was 20/20 in each eye. The optic disks were full and elevated 2 diopters. Each disk revealed several colloid bodies. The veins were tortuous on each disk, but not engorged, and no spontaneous venous pulsation was seen. The retinae were normal without hemorrhages, exudates or retinal folds. The disk changes were felt to be quite compatible with the diagnosis of pseudopapilledema, and no progression or regression has been noted in these findings over the last year (Figs. 1 and 2).

DISCUSSION

For clinical purposes, pseudopapilledema cases fall into two major groups. Those cases in the first group often give less trouble to the examiner, and are characterized by high degrees of hyperopia. The disk is usually seen to appear smaller than normal and the margins are blurred. The physiological cup is small or absent and the veins are not congested. There are no hemorrhages or exudates. The visual acuity is normal after correction of the refractive error and the blind spot is not enlarged in the visual fields; in fact, the blind spot is frequently smaller than normal in these cases.

The cases in the second group usually give more difficulty in differential diagnosis. There is no remarkable refractive error in these cases. In spite of elevation of the disk and blurring of the disk margins, the findings of a normal appearance of the retinal vessels, absence of optic disk congestion and lack of hemorrhages and ex-

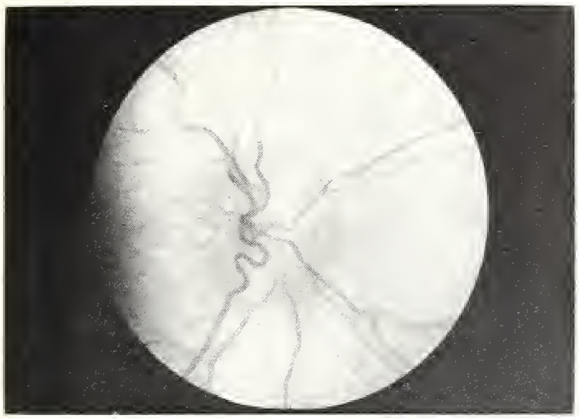

Fig. 1. Right fundus showing tortuosity of vessels, fullness and elevation of disk. No hemorrhages, exudates or engorgement of veins is seen.

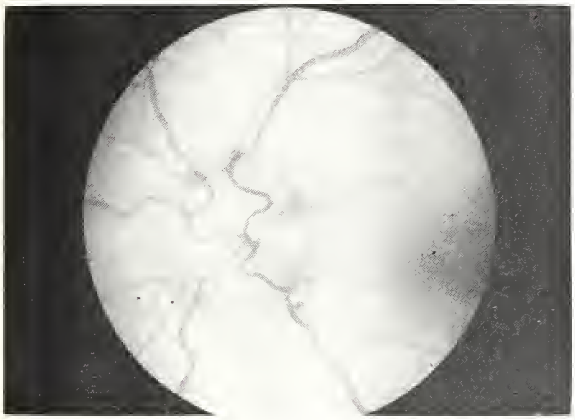

Fig. 2. Left fundus with same findings as right.

udates suggest a disk anomaly rather than true papilledema. The possibility of pseudopapilledema should be suspected when the optic nerve finding is observed during a routine eye examination, and in the absence of other signs and symptoms which on their own merit would warrant neurosurgical investigation. The visual acuity will be normal and the blind spot will be normal, or somewhat enlarged. The enlargement of the blind spot should be consistent with the observed disk size and should remain the same on repeated examinations. Pseudopapilledema is usually bilateral, but frequently is found to be unilateral.[1] In suspected cases of pseudopapilledema, further knowledge may be gained by examination of the fundi of siblings and parents, since frequently they will show evidence of the same anomaly. According to Walsh, pseudopapilledema can only be explained on the basis of a developmental abnormality.[2] Hoyt and Pont felt that buried hyaline bodies in the tissue of the optic disk were the major cause of pseudopapilledema in their series.[1] An association of central nervous system disease with elevated optic disk anomalies has never been firmly established,[1] and aggressive attempts to exclude brain tumor by neurosurgical investigation should not be undertaken, provided other signs and symptoms of the patient do not indicate otherwise.

A patient thought to have pseudopapilledema should be examined at frequent intervals over a period of weeks to months by an ophthalmologist who should pay particular attention to any changes such as an increase in the size of the blind spot and hemorrhages on the optic disk. Photographs of the fundus, when available, are helpful.

SUMMARY

The anomalous elevation of the optic disk (pseudopapilledema) should be suspected whenever an elevated, noncongested disk is seen without a physiological cup and nondilated, normal veins and arteries are seen to pass over its surface. The blind spot may be enlarged, visual acuity will be normal and the findings will remain the same on repeated examinations. There will be no hemorrhages or exudates present. Frequent examinations will be necessary to rule out any change in the picture. A case history is included by way of illustration.

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CHARLES E. WORKMAN, M.D., ***Kansas City***

Power Paint Sprayer Injury to Hand

Case Report

A case report of an injury to the hand by a power paint sprayer with lead tetraoxide is presented.

Injury to the hand and fingers by injection of lubricating grease and molten plastics is well known.

Injuries to the hand by a power paint sprayer have not been described to the best of my knowledge. The description of a recent injury due to the injection of red lead (lead tetraoxide) is here described.

J. P., aged 52, accidentally triggered a power paint sprayer, operating under eighty pounds of

(Continued on page 858)

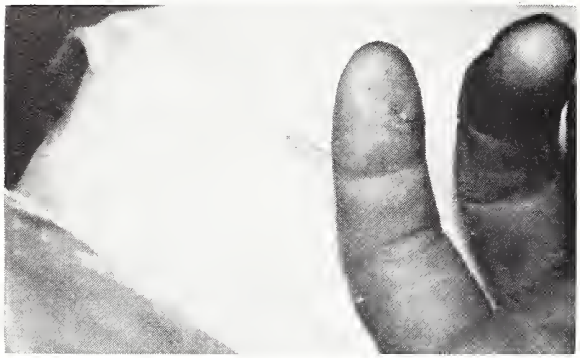

Fig. 1. Appearance of finger approximately one and a half hours after the injury.

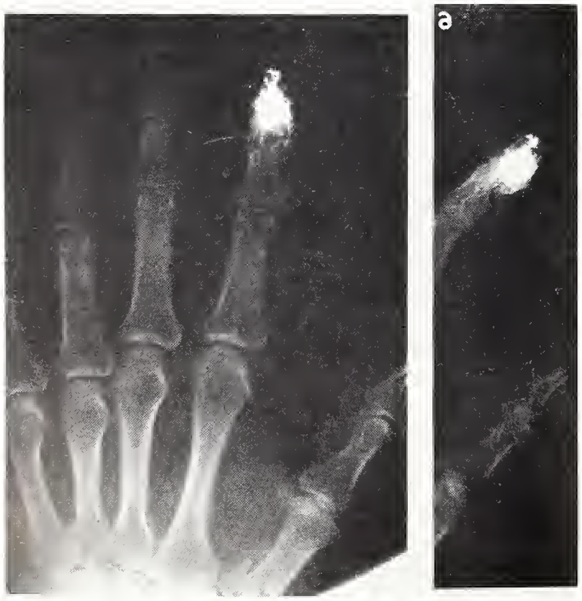

Fig. 2. X-ray shows the extent of the red lead.

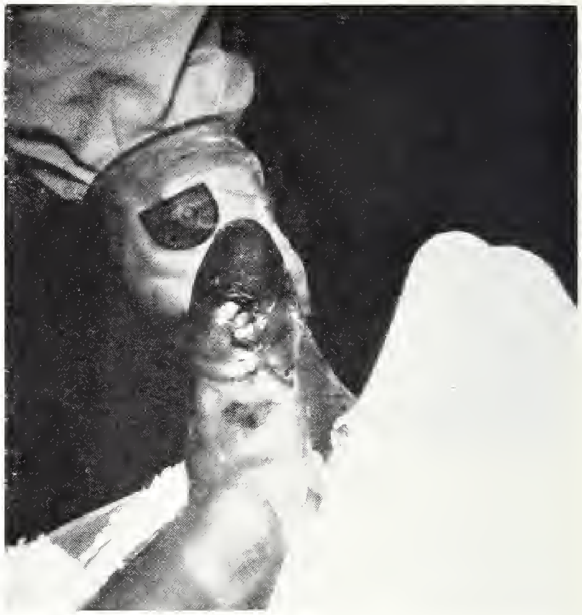

Fig. 3. "Dry gangrene" developed one week after injury.

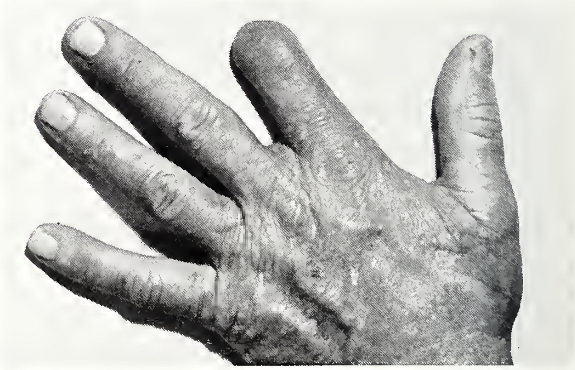

Fig. 4. Appearance of the finger after amputation had healed.

TIMOTHY T. DALTON, M.D., ***Kansas City***

Anesthesia, Antibiotics and Apnea

The occurrence of antibiotic-induced apnea is illustrated by a case report, pointing out its role in unexplained hypoventilation problems.

Dr. Dalton is on the staff of Research Hospital, Kansas City.

The curare-like action of certain antibiotics, notably Neomycin, Streptomycin and Kanamycin, has been known for some time, especially when they are used in conjunction with muscle relaxants or ether. However the increasing tendency during surgery to use large doses of antibiotics by the intrapleural and intraperitoneal routes, plus the demand of modern-day surgeons for longer periods of cadaver-like flaccidity requiring large amounts of relaxant drugs will probably lead to higher incidence of postoperative ventilatory insufficiency. The purpose of this paper is to present a case of antibiotic-induced respiratory depression, and to alert those practicing anesthesia to this danger, its probable cause and the methods of therapy currently recommended.

Case Report

A 43 year old white female required surgery to relieve small intestinal obstruction. Miller-Abbot tube decompression of the obstruction had been attempted unsuccessfully for 24 hours. Laboratory findings preoperatively were within normal limits. The three hour operative procedure decompressing and relieving the obstruction was performed under cyclopropane-ether anesthesia in a semi-closed system using d-tubo curare for muscle relaxation. A total of 6 milliliters (18 mg.) of curare was used; the first 5 milliliters being given during the first half hour of surgery, and the last milliliter being given one hour and 15 minutes before completion of operation.

Twenty milliliters of ether were used, but this agent was discontinued 60 minutes prior to completion of the operation and a 10 liter flow of nitrous oxide and oxygen was instituted in an attempt to eliminate as much ether from the patient as possible. Spontaneous ventilation was clinically adequate after closure of the peritoneum and fascia. Streptomycin (1 gram) was then injected into the peritoneal cavity. Ten minutes later, respiratory activity was reduced to a tracheal tugging with little gas exchange. Tidal volume increased temporarily in response to edriphonium (Tensilon®) intravenously. Consequently atropine 0.4 mg. followed by prostigmine 1.0 mg. were given intravenously. Tidal volume appeared clinically adequate when the patient left the operating room.

Although many other factors may be involved in the case of post-antibiotic respiratory paralysis presented, the close proximity of antibiotic administration and occurrence of apnea tend to incriminate the Streptomycin as the main offender. Most physicians are aware of Neomycins curariform effect, but some do not realize that Streptomycin and Kanamycin also possess muscle-relaxing properties and chemical structures similar to Neomycin.[1, 2] Muscle weakness following all three of these antibiotics is generally antagonized by prostigmine. However, since the basic pathophysiology of the neuro-muscular blockade caused by these drugs has been ascribed to lowering of blood calcium ion levels essential for maintaining motor end plate potential, it would seem that these blocks should be more effectively reversed by administration of calcium. This has in fact been successfully done in man.[3, 4] The antagonism to antibiotic muscular blockade offered by calcium is said to occur more rapidly and completely reverses the block.

Since certain undesirable parasympathomimetic actions (hypotension, bradycardia and bronchoconstriction) can accompany reversal of antibiotic-induced apnea with prostigmine, a plea has been made to use calcium gluconate intravenously as a more physiologic, rapidly-acting and complete antagonist. Some authors recommend calcium be given prophylactically intravenously whenever one of these particular antibiotics is to be given intraserousally.[5]

Other factors during surgery which may augment this hypocalcemic paralysis due to the antibiotic are transfusions of citrated blood, hyperventilation and relative overdosage of the antibiotic especially in the very young and the aged. Not only the non-depolarizing relaxants (e.g. curare) but also the depolarizing relaxants (e.g. succinylcholine) are subject to this antibiotic augmentation, since if the shorter-acting relaxants are used in large quantities, they begin to act similarly to curare.

In summary, the occurrence of antibiotic-induced apnea is evidenced by a case report to alert those practicing anesthesia and surgery to its possible role in unexplained hypoventilation problems. A method of treatment recently described[5] and different from that used for curarization is suggested. Since these antibiotics are often given through a catheter drain or injected intraperitoneally or intrapleurally at the termination of the operation, respiratory paralysis may not occur until the patient is out of the operating theater. Patients receiving these three antibiotics intraserousally should be given calcium intravenously prophylactically, and their ventilation watched most carefully postoperatively.

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INJURY TO HAND

(Continued from page 856)

pressure, injecting a small amount of "red lead" paint into the tip of the index finger (fig. 1).

Initial examination, soon after admission, revealed a painful, tense, slightly numb index finger. There was a small wound of entrance on the flexor aspect of the tip of the finger.

X-Rays well delineated the extent of the penetration of "red lead" (fig. 2).

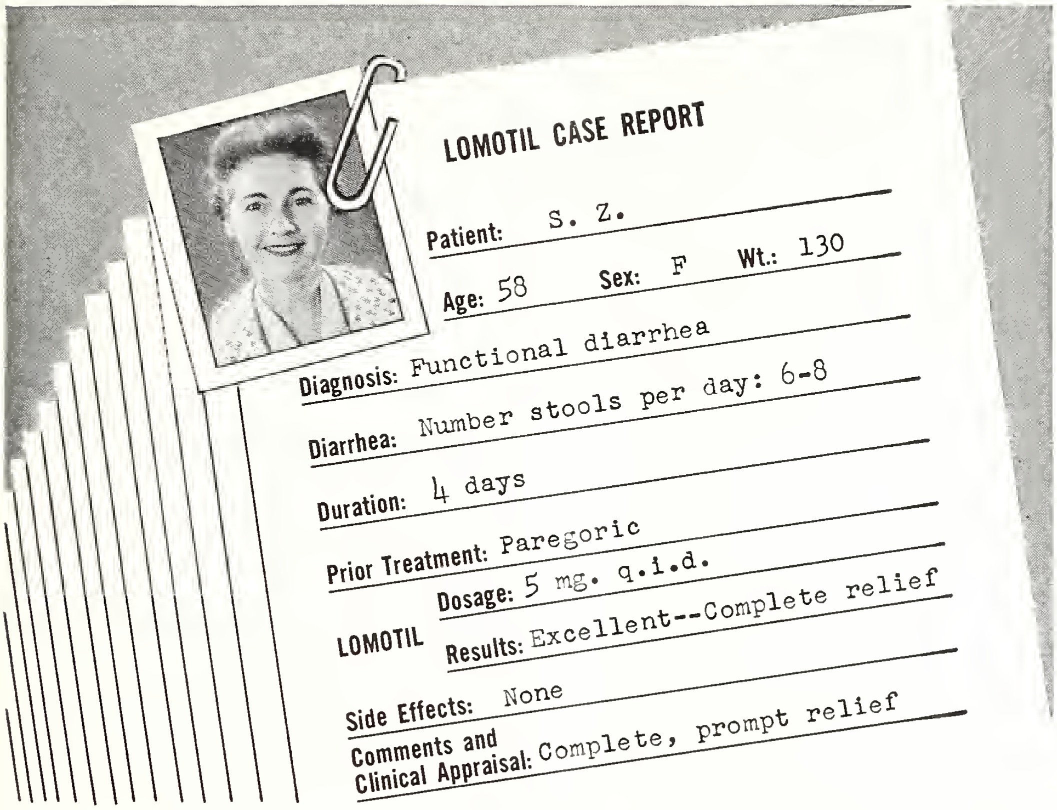
The finger was tense and painful and numbness was noted in the tip of the finger. The patient was taken to surgery, operating under a tourniquet, and as much of the paint as possible was removed. The paint did not enter the tendon sheath. (The tendon sheath was opened and the tendon was normal.)

The first few days were uneventful. Five to seven days later "dry gangrene" developed (fig. 3).

Amputation was performed on July 21, 1961, conserving as much length as possible (fig. 4).

The results of excision and drainage in this case cannot be considered good. Since the tendon was not involved in this case, radical excision of the involved tissue and overlying skin and immediate coverage with an abdominal pedicle graft might have prevented amputation.

Bunnell: Surgery of Hand, 3rd Edition, pp. 725.



LOMOTIL CASE REPORT

Patient: S. Z.

Age: 58 Sex: F Wt.: 130

Diagnosis: Functional diarrhea

Diarrhea: Number stools per day: 6-8

Duration: 4 days

Prior Treatment: Paregoric

LOMOTIL Dosage: 5 mg. q.i.d.

LOMOTIL Results: Excellent--Complete relief

Side Effects: None

Comments and Clinical Appraisal: Complete, prompt relief

To control diarrhea . . . promptly

prescribe LOMOTIL® promptly

Each **tablet** and each 5 cc. of **liquid** contains: 2.5 mg. of diphenoxylate hydrochloride (Warning: may be habit forming) and 0.025 mg. of atropine sulfate

The direct, well-localized activity of Lomotil relieves spasm and cramping and provides prompt symptomatic control of virtually all diarrheas.

Numerous investigators have remarked on the effectiveness of Lomotil in patients with diarrhea uncontrolled by other agents.

Weingarten and his associates[1] found it "an excellent drug . . . efficacious where other drugs have failed. . . ."

Hock[2] obtained "results superior to prior medications in 68.3 per cent of 41 patients."

Since Lomotil controls diarrhea so consistently, it is only rational to prescribe Lomotil *before* other agents have a chance to prove inadequate. To control diarrhea promptly, prescribe Lomotil promptly.

Lomotil is an exempt narcotic, its abuse liability being comparable to that of codeine. Recommended dosages should not be exceeded. Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness and insomnia. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. Lomotil is brand of diphenoxylate hydrochloride with atropine sulfate; the subtherapeutic amount of the latter is added to discourage deliberate overdosage.

1. Weingarten, B.; Weiss, J., and Simon, M.: A Clinical Evaluation of a New Antidiarrheal Agent, Amer. J. Gastroent. 35:628-633 (June) 1961. 2. Hock, C. W.: Relief of Diarrhea with Diphenoxylate Hydrochloride (Lomotil), J. Med. Ass. Georgia 50:485-488 (Oct.) 1961.

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Research in the Service of Medicine

SOLOMON GARB, M.D., *Columbia*

Thermonuclear Survival

Special Civil Defense Problems of Rural Areas

This continues a series of articles on thermonuclear survival. These include material previously published in the *New York State Journal of Medicine,* and are published with permission of that journal.

Dr. Garb is secretary of Medical Education for National Defense at the University of Missouri. He is Associate Professor of Pharmacology, Department of Physiology and Pharmacology, at the University of Missouri School of Medicine.

Reprints of individual articles will not be available but reprints of the entire series will be made available if there is sufficient demand.

THE CIVIL DEFENSE status of rural areas presents a paradox. Theoretically, the wide distribution of the population makes it possible to afford excellent protection to a great majority against any conceivable attack. However, as of July 1963, the rural population is in effect more vulnerable to enemy attack than the city population. It is true that city populations offer more concentrated targets. However, cities also have, in basements of large buildings, many intrinsic shelter areas against fallout effects. Thus, city dwellers could get good protection against fallout, and would be endangered mainly by fire and blast effects which involve smaller areas. By contrast, the farm populations is protected by dispersion from most of the fire and blast effects, but is largely unprotected against fallout which involves a large area.

An enemy attack of about 5,000 megatons directed against military installations and cities would kill from 30 to 50 per cent of the population of the large cities, considering their present civil defense condition. (As pointed out in another article, measures can be taken to increase city people's survival chances considerably.) By contrast, a 5,000 megaton attack would kill about 80 per cent of the rural population, in their present state of unpreparedness. If the government type basement fallout shelter were available, the death rate in the rural areas would drop to about 20 per cent, and old fashioned tornado shelters could lower the probable rural death rate to 5 per cent or less. If superior shelters were available, such as the underground steel culvert described in earlier articles, the survival chances of rural Americans would rise so that even attacks with 50,000 and 100,000 megatons would not kill more than 10 per cent of those sheltered (fig. 1).

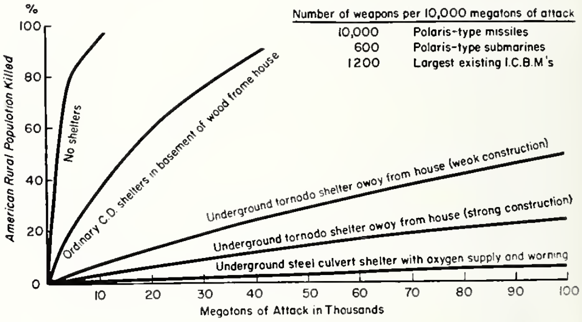

Fig. 1. Survival chances of rural residents.

Thus, there is a marked contrast between the present extreme vulnerability of the rural population, and the potential civil defense protection which could be made available at a reasonable cost ($150 to $200 per life).

One should also consider the relationship of rural civil defense to the survival of the city population, and the nation as a whole. If the rural population is largely wiped out, the chances for survival of the nation will be virtually eliminated. The city dwellers could live a year or two on stored grain, but would then starve when no further crops were produced. Could surviving city dwellers be moved to rural areas after a thermonuclear war, and be taught farming in time to bring in sizeable crops before the existing stores were exhausted? Possibly they could to some extent, but considering the disorganization which would follow an attack, this seems unlikely.

Therefore, the protection of the farming population involves more than saving their lives alone. It involves the survival of the city dweller, and of the nation. Accordingly, rural civil defense deserves a much higher priority than it has received thus far.

Suggestions for Improving Rural Civil Defense

It should be recognized that, in general, large shelters are more effective and economical than family shelters. Therefore, top priority should be given to the construction of good community shelters under the yards of all rural schools. These shelters should be large enough for three times the actual school enrollment. It would be completely fair and proper for the federal government to pay the entire cost of such shelters, since they would parallel the fall-out shelters now available to city people without any expense on their part. Considerations of fairness suggest that the first of such shelters be built in areas within a 25 mile radius of missile sites.

Next, encouragement should be given to the building of neighborhood shelters for four or more farm families. In general, a neighborhood rural shelter should serve all farm families within a one mile radius (3 square miles) with 50 per cent extra capacity for visitors and seasonal laborers. One should be able to walk to such a shelter in 20 minutes or less. Financing could be handled by federal funds, without a corresponding increase in federal expenditures. Instead of paying farmers not to grow crops, let the government change its method of farm subsidies somewhat, and pay part of it for shelter construction. For example, if a farmer now gets $5,000 for not growing crops, let him receive $200 per person in his family toward neighborhood shelter construction, and the remainder, up to the $5,000 for not farming.

In isolated situations, family shelters may still be needed.

In general, the national aim should be to provide in rural areas shelter capacity equal to at least twice the present rural population.

In some cases, the farmers themselves seen pessimistic about civil defense. Questioning has revealed an attitude which may be widespread and which needs correction. Apparently, many farmers have accepted some of the inaccuracies and errors of the opponents of civil defense. They have been persuaded that in the event of an actual or threatened thermonuclear attack, a horde of panic-stricken, hysterical city people will descend on them "like locusts" and take over everything, including shelter space at gunpoint if necessary. Therefore, they reason, why bother building shelters for someone else? There are several cumulative errors in this attitude. First of all, careful studies of many disasters show that few Americans panic at the time of danger. Usually, their actions are purposeful, sensible and considerate. The few cases of panic occurred when an exit route proved to be closed, and the victims did not know it.

Secondly, the vast majority of city dwellers are decent, honorable, law-abiding citizens who do not even carry guns. Even in extreme circumstances, they would not be likely to act in an unrestrained fashion.

Thirdly, the shelter program in cities is now well underway. There are shelters in the cities for most of the inhabitants. In Missouri, the cities of St. Louis and Kansas City have enough shelter spaces not only for their own population but for all the rest of the state as well.

Another point to be considered is the feasibility of many city dwellers getting to the rural areas even if they wished to do so. In the event of a sudden attack, an attempt to evacuate the cities would be suicidal. The fallout would catch the people in cars (which offer virtually no protection). Within a few minutes after fallout descends, the drivers of the cars will have received an emetic dose of radiation, and will be incapacitated by vomiting. All traffic will be stopped. Within an hour or less, everyone on the road will have received a lethal dose of radiation.

There remains the possibility of a strategic evacuation of the cities to the rural areas. This seems somewhat unlikely, but might occur if an enemy gave a 24 hour ultimatum, or if circumstances made an enemy attack seem so likely that individual citizens, without government urging, started to leave the cities. How would this affect the civil defense preparations of the farmers? To a large extent, this will depend on the attitudes of the farmers themselves. The city dwellers, as mentioned, are just as decent, reasonable and law-abiding as the rural population. If they are treated decently, they will respond in a like manner, even in an extreme emergency. On the other hand, if they are treated like an invading army or a "horde of locusts," it is not unreasonable to expect them to act as such. Assuming a situation in which a group of 10 farm families (50 persons) in a neighborhood shelter are faced with an influx of 500 city people who have fled from an attack expected within 24 hours, clearly, the shelter with a capacity of 50 to 75 persons is too small to handle 550, so that the city people cannot be invited in. On the other hand if they are treated discourteously and ordered to leave the area, they could possibly respond in a violent fashion. However, there are other alternatives, if some forethought has been given to the problem. A suggested one is as follows:

The farmers should point out that even if they tried to squeeze everyone into the shelter, they could not; no one would survive. However they should then explain that makeshift shelters could be built quickly, which would save the lives of all the city people. Furthermore, they should offer to help build these shelters in the hours remaining, and should be prepared to direct and supervise the city people in their labors. Digging implements, lumber, fence posts, should be loaned to the visitors, and they should be organized into squads and companies. While some are digging, a few can be getting water, and others can be purchasing stored grain for emergency rations.

There are makeshift shelters which could be built in six to 18 hours, and which offer a substantial degree of protection—perhaps not enough to prevent some radiation effects but enough to save the lives of virtually everyone inside. The best plans thus far seem to be drawn up by the Russians, and it is recommended that they be used in such situations (fig. 2). This type of shelter can be built quickly, but since its supports are untreated wood, it has a life expectancy of only a few months. Therefore, it cannot be built long in advance of an attack.

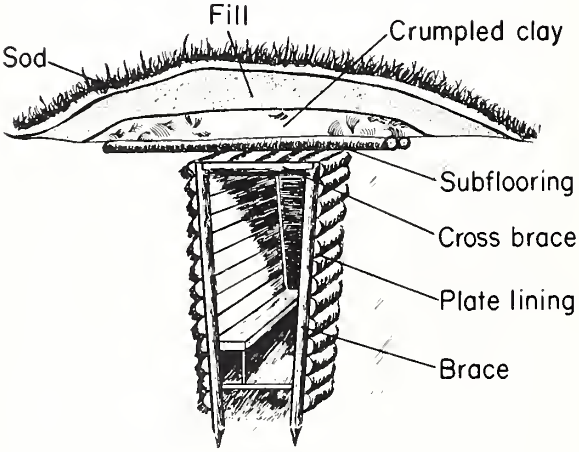

Fig. 2. A shelter that can be built in from six to 18 hours.

The question may be raised—if there are such shelters which give good protection and which can be built in less than a day, why bother with more expensive permanent shelters? Why not wait and then, during the emergency, build the slit-trench type shelter? The answer is that this type of approach would only work if we had many hours warning of a probable attack. It is unlikely that we will have more than one hour's warning, and the chances are that the warning period may be only 15 to 20 minutes. The slit-trench shelter is proposed here as the solution to the question of how the farmer can handle city refugees on his land if they have enough warning to get there before an attack. The likelihood, as pointed out above, is that this will not happen. The slit-trench shelter cannot be built in time to protect against the most probable hazard—a sudden attack. Therefore, primary reliance for the protection of the farm families must come from more permanent shelters.

On the other hand, somewhat similar shelters, using treated wood could be built in advance, and in some areas, might be more suitable than steel or concrete. Here too, the Russian design seems excellent and may prove useful (fig. 3).

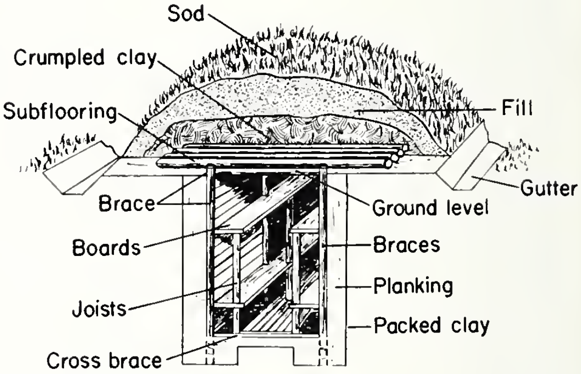

Fig. 3. A shelter built with treated wood.

Undoubtedly, other shelter designs will be developed, using readily available materials.

An essential element to a successful rural civil defense program is the informed, intelligent participation of the farm families themselves. The county agents are usually an excellent source of authentic information. In some counties, there are effective civil defense organizations; in others there are not. It is essential that each county have an effective civil defense program, headed by a trained, capable, full-time civil defense director, with an adequate budget. The present vulnerability of the rural population should be corrected as soon as possible.

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Kenneth C. Hollweg, M.D.

President's Message

"Half a loaf is better than none" have been words of consolation for a long time, and they probably apply to the implementation of the Kerr-Mills law in Missouri.

At that, probably the larger "half" or at least the best "half" was provided by the recent legislature. While the Governor vetoed S. B. 148 which would have provided a program for the "near needy" he approved S. B. 140 which allows execution of the first portion of the Kerr-Mills law. Thus, inpatient care may be furnished to qualified persons who are certified by competent medical authority as requiring hospitalization for serious illness or injury for which outpatient care would not suffice. In addition, certain dental care and prescribed drugs and medicines may be provided.

Kenneth C. Hollweg MD

EDITORIALS

HIGHWAY FATALITIES INCREASE

Motorists in 1962 raced down the nation's highways to a new death record which for the first time exceeded 40,000 fatalities, according to a report by the Travelers Insurance Company.

The number of people injured in traffic accidents also took a sharp turn upward.

The report, first issued in 1931, is prepared annually by the insurance company based on information provided by state motor vehicle departments.

U. S. highway deaths in 1962 totaled 40,500, a 7 per cent increase over 1961. Not since 1941, when 39,969 persons lost their lives, has the traffic fatality record been so high.

The report revealed a 9 per cent increase in the number of injured in 1962 compared with 1961. In all, 3,345,000 men, women and children were hurt in auto accidents last year.

Excessive speed again led the way as the primary cause of accidents. Nearly 13,000 people were killed and more than 1,145,000 were injured as a direct result of speeding violations. Other major causes of accidents included driving on the wrong side of the road and reckless driving.

Young drivers in 1962 had the worst performance record of any age group. Drivers less than 25 years of age comprise only about 15 per cent of all licensed drivers in the United States, yet were involved in approximately 29 per cent of all fatal accidents. In 1961 this age group was involved in 27.3 per cent of all highway deaths.

Persons in this age group also were involved in a great number of non-fatal highway accidents. In 1962, they were implicated in 27.3 per cent of all non-fatal accidents as against 23.3 per cent in 1961.

Nearly nine out of every 10 casualties on the nation's highways in 1962 were caused by human error and lack of judgment. Of the 40,500 persons who lost their lives in traffic accidents last year, 32,300 died in accidents caused by driver error and traffic law violations. Nearly 3,000,000 persons were injured in auto mishaps blamed on drivers' mistakes.

DISEASE INCIDENCE LOW IN 1963

The health picture of the American people is looking bright this year, according to the Health Insurance Institute. The report based on data on communicable diseases compiled by the U. S. Public Health Service for the first 26 weeks of 1963, said that in addition to polio, such diseases as hepatitis, encephalitis, diphtheria, measles and typhoid fever also had lower incidence over the same period a year ago. Polio's decline was the most dramatic, however.

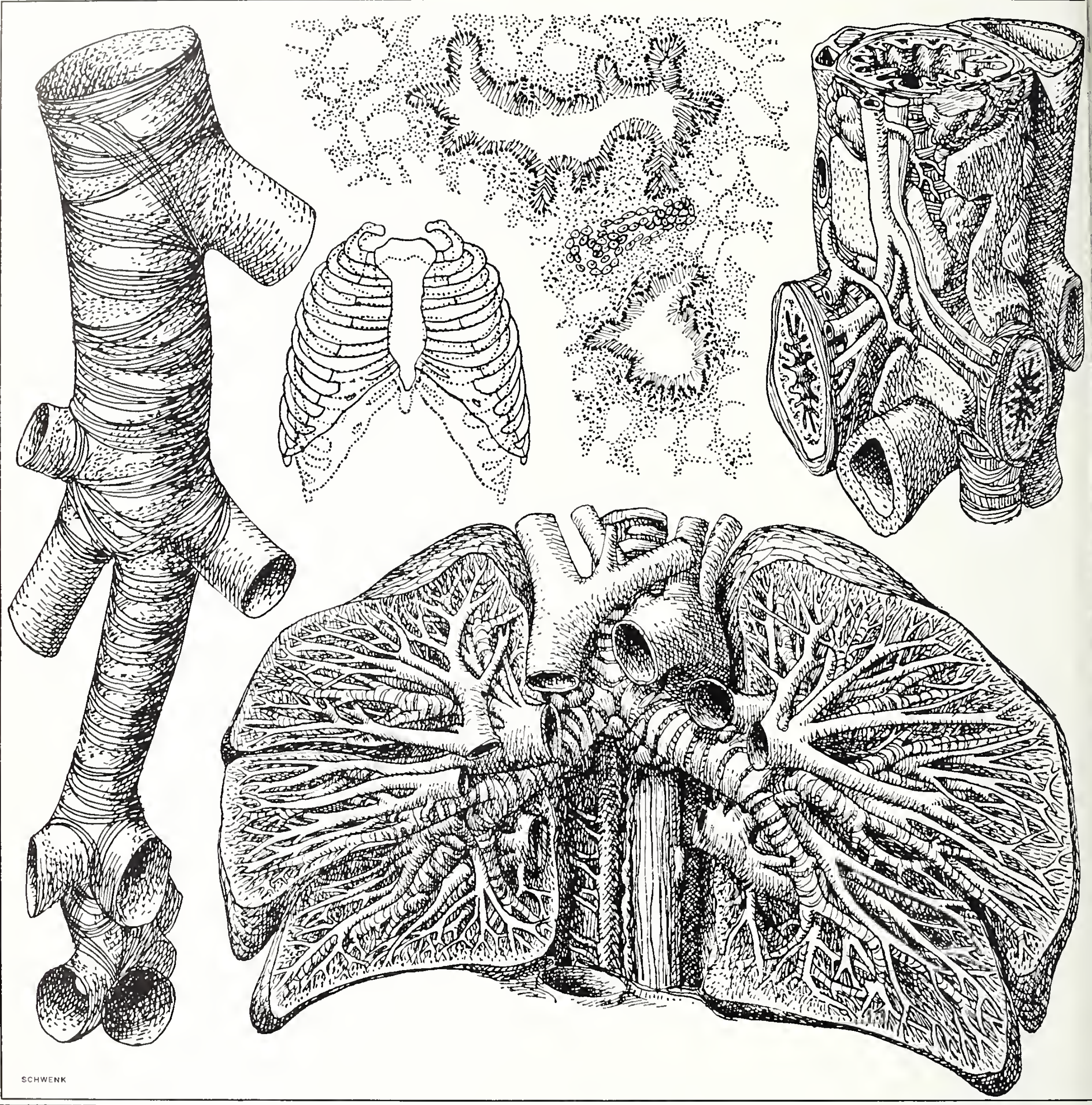
In the first 26 weeks of this year, 81 cases of polio were reported in the United States—126 fewer cases than for the same period of 1962. Although many weeks remain of summer when polio is at its peak, the nation appears headed this year for its lowest incidence of polio since records first were kept in 1915.

Polio's extraordinary decline is best illustrated, said the Institute, by comparing current figures with 1952 when a record 58,000 polio cases were reported during the full year. Incidence of the disease went into sharp decline after polio vaccination programs began in 1955.

Hepatitis, which has had high incidence counts in recent years, also appears to be on the wane. A total of 23,639 cases were reported in the first 26 weeks of the year as against 31,654 for the same period in 1962.

The incidence of measles has decreased, as well. Some 335,000 cases were reported in the first half of 1963, a drop of 81,000 cases. Reported cases of diphtheria are fewer, too—132 for the first 26 weeks compared to 219 a year ago, and typhoid fever cases declined from 246 to 182 for the first six months of 1963.

Some communicable diseases were on the rise. Strep throat and scarlet fever, added together, increased by 18,000 cases for a total of nearly 215,000 cases reported in the first half of this year. Also increased, but slightly, were aseptic meningitis cases, with 627 cases reported for the 26 week period as compared to 606 in 1962, and tetanus, 112 cases in 1963's first half against 106 a year ago.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Ramblings of the Field Secretary

Missouri physicians have a number of state wide postgraduate programs to consider attending during the coming fall months. There may be others scheduled, but the following meetings are herein listed: Symposium on Infectious Diseases, University of Missouri Medical School, Thursday, September 19, 9:00 a.m. to 5:30 p.m.; 41st Annual Fall Clinical Conference, Kansas City Southwest Clinical Society, Hotel Muehlebach, Kansas City, Mo., September 30-October 1 and 2; Correlative Seminar on Genito-Urinary Diseases (urology, obstetrics-gynecology), University of Missouri School of Medicine, October 17 and 18; 15th Annual Scientific Assembly, Missouri Academy of General Practice, Hotel Muehlebach, Kansas City, October 26-27; M.D. Day, University of Missouri Medical School, November 15 and 16, tied in with the Oklahoma-MU football clash on November 16. All of these programs are acceptable for Category I PG credit by the Academy of General Practice.

The Missouri State Medical Foundation has received 27 loan applications from Missouri residents attending medical schools for the fall term 1963-1964. The number of applications for loans is constantly increasing, which of course brings about the need for a continual addition of funds to the foundation. County medical society bulletins over the state along with MISSOURI MEDICINE, have been most generous with free space in promoting the foundation in its efforts to help more and more deserving Missouri residents secure their M.D. degree through necessary loan assistance.

Among the locations in out state Missouri where physicians have recently located are: Louisiana, Glasgow, Noel, Lexington, Willow Springs, St. Clair, Cuba, California, Holden, Farmington, Poplar Bluff and El Dorado Springs.

CONSULTING STAFF CONFERENCE ELLIS FISCHEL STATE CANCER HOSPITAL

Columbia, Missouri
October 20, 1963

9:30-10:30 a.m. Panel discussion on Cancer Management with presentation of problem cases.

Moderator: Dr. Ned D. Rodes.

Panelist:
Dr. Eugene M. Bricker, Surgeon.
Dr. Juan del Regato, Radiotherapist.
Dr. Lauren V. Ackerman, Pathologist.

10:30-11:00 a.m. Coffee.

11:00-11:15 a.m. Behavior and Management of Epidermoid Carcinomas of the Lower Extremities, Dr. Robert Glass.

11:15-11:30 a.m. Indications and Surgical Technic for Ilio-inguinal Lymph Node Dissection, Dr. Burl Dillard.

11:30-11:45 a.m. Recurrent Basal Cell Carcinomas, Dr. Richard Lauritzen.

11:45-12:00 a.m. Mortality Factors Associated with the Surgery for Colonic Cancer 1915-1962, Dr. Hiram Polk.

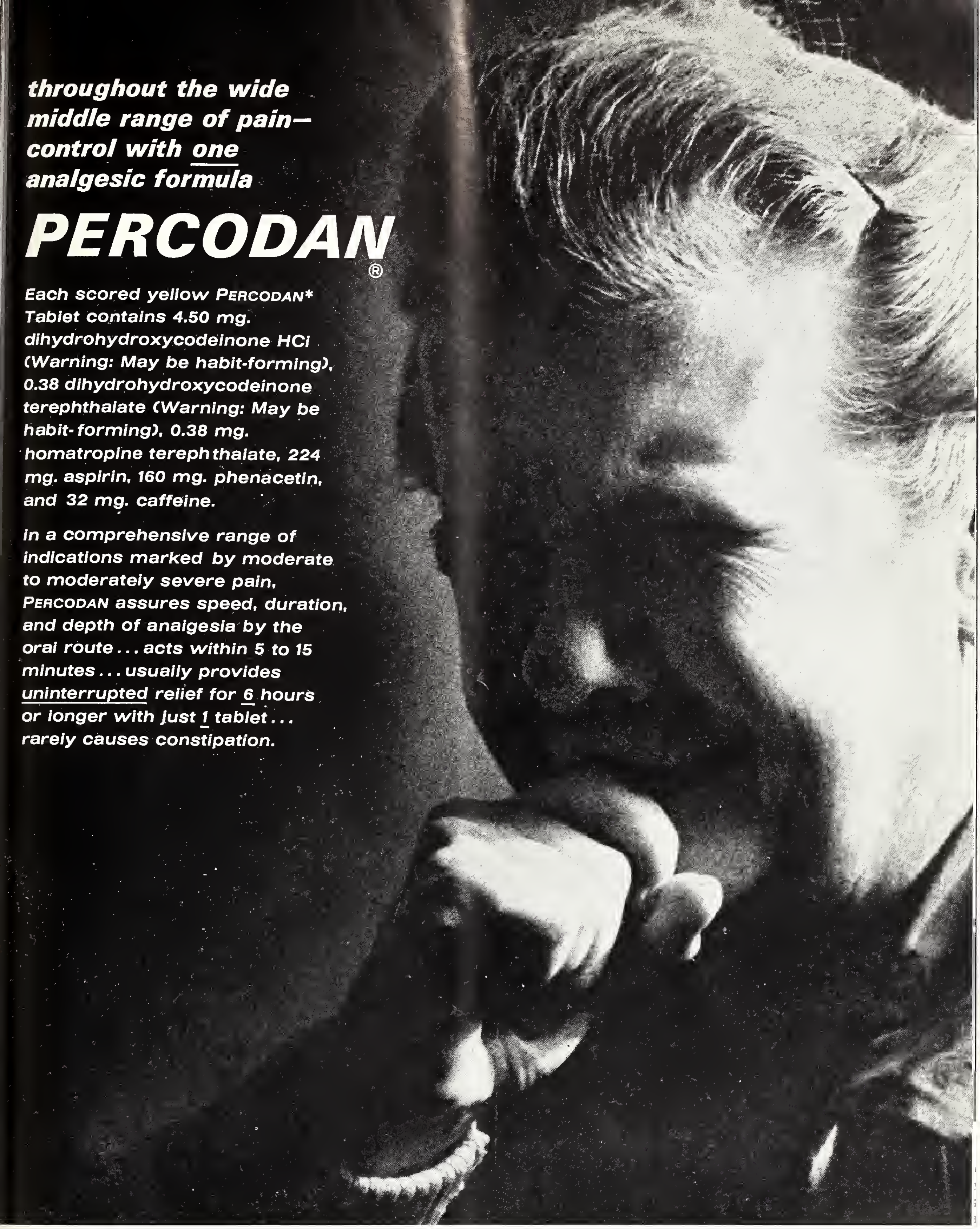
12:00-12:30 p.m. Business session of Consulting Staff.

ATTORNEY GENERAL'S RULING ON INTRAVENOUS THERAPY

Recently the Missouri Board of Nursing received the following information from Attorney General Thomas Eagleton regarding the question as to whether registered professional nurses or practical nurses may administer fluids intravenously:

"We have carefully considered this question and it is our opinion that a registered professional nurse who is qualified by experience or training is legally authorized to administer fluids such as glucose, saline solutions, vitamins, Ringer's solution, distilled water, amino acids and antibiotics intravenously by needle puncture when this is done under the direction or supervision of a licensed physician.

"Performance of this procedure under the supervision and direction of the physician does not necessarily require the immediate physical presence of the physician. It is our opinion that the registered professional nurse is performing this procedure under the supervision and direction of the physician if it is performed pursuant to and in accordance with a proper order for this treatment and if the physician is available to receive or dispense information concerning the initiation and continuation of the procedure. It is further our opinion that practical nurses are not authorized by law to administer fluids intravenously."

**throughout the wide middle range of pain-control with one analgesic formula**

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News—Personal and Professional

Certificate of Fellowship in the American College of Chest Physicians was conferred on **Daniel L. Dolan**, M.D., Springfield, at a meeting in Atlantic City in June.

Among members of the 13 member advisory board named by Proctor N. Carter to assist in administering the new Kerr-Mills law are **Stanley S. Peterson**, M.D., Springfield, and **Avery P. Rowlette**, M.D., Moberly. Mr. T. R. O'Brien was named an ex-officio member.

July 19 was "**Dr. J. M. Threadgill** Appreciation Day" at the Taney County Fair in Forsyth, with a special observance from 8:00 to 9:00 p.m. The *Springfield News & Leader* carried a story on the life of Dr. Threadgill on July 14.

Recently elected president of the staff of the Johnson County Memorial Hospital is **Mario Garza Gonzalez**, M.D., Warrensburg. **R. E. Cooper**, M.D., Warrensburg, was elected vice president.

Recently appointed editor of *Dermatology Digest* is **David R. Weakley**, M.D., Kansas City.

At a recent meeting of the American Proctologic Society in San Francisco, **George H. Thiele**, M.D., Kansas City, spoke on "Coccygodynia: Its Cause and Treatment."

Among members of a panel discussing "Problems in Treatment of Drug Resistant Heart Failure" at a recent meeting of the American College of Chest Physicians was **Michael Bernreiter**, M.D., Kansas City.

DEATHS

Callaway, Luther M., M.D., Kansas City, a graduate ol Washington University, 1910; member of Jackson County Medical Society; aged 80; died June 28, 1963.

Getelson, Joseph, M.D., Kansas City, a graduate of Ohio Miami Medical College, 1910; member of Jackson County Medical Society; aged 76; died June 29, 1963.

Birdsall, Thomas C., M.D., St. Louis, a graduate of St. Louis University, 1922; member of St. Louis Medical Society; aged 65; died July 4, 1963.

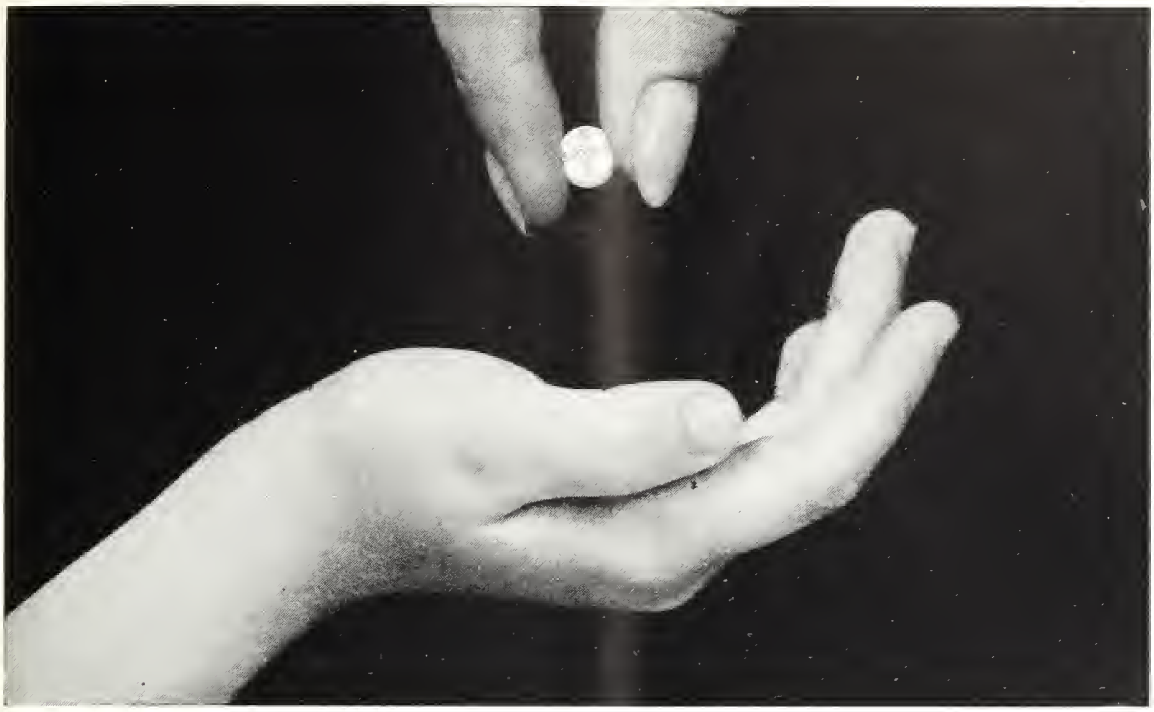
Krebs, Otto S., M.D., St. Louis, a graduate of Washington University, 1919; member of St. Louis Medical Society; aged 68; died July 4, 1963.

Moore, Sherwood, M.D., Rock Hill, a graduate of Washington University, 1905; member of St. Louis Medical Society; aged 83; died July 9, 1963.

Clay, Hampson S., M.D., Poplar Bluff, a graduate of the University of Arkansas, 1928; member of Butler-Ripley-Wayne County Medical Society; aged 63; died July 13, 1963.

Freeman, Hal E., M.D., Springfield, a graduate of the University of Louisville, 1934; member of Greene County Medical Society; aged 56; died July 13, 1963.

Hassett, Henry, M.D., St. Louis, a graduate of St. Louis University, 1920; member of St. Louis Medical Society; aged 67; died July 18, 1963.



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County Society News

FIRST DISTRICT

JOSEPH L. FISHER, ST. JOSEPH, COUNCILOR

Grand River Medical Society

The June meeting of the Grand River Medical Society and its Woman's Auxiliary was held at the Strand Hotel in Chillicothe on Thursday night, June 13. Following dinner the ladies retired to a separate meeting.

The doctors were privileged to hear a discussion by Arthur Baue, M.D., Assistant Professor of Surgery, University of Missouri Medical School, Columbia, on the subject, "Current Concepts in Vascular Surgery."

This was the last meeting of the Society during the summer season.

Jack L. Vinyard, M.D., *Secretary*

FOURTH DISTRICT

PAUL WHITENER, ST. LOUIS, COUNCILOR

Lincoln-St. Charles County Medical Society

J. Eugene Lewis, M.D., St. Louis, Associate Professor of Clinical Surgery, St. Louis University Medical School, and Chief, Surgical Section, Cardinal Glennon Memorial Hospital for Children, presented the scientific program at a meeting of the Lincoln-St. Charles County Medical Society at the Golf View Inn, St. Charles, Tuesday evening, June 25. Dr. Lewis spoke on the subject, "Diagnosis and Management of Surgical Problems in the New Born."

A social hour preceded dinner and the program on this enjoyable and informative occasion.

Robert J. Fleming, M.D., *Secretary*

SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

West Central Missouri Medical Society

The West Central Missouri Medical Society closed its meetings for the summer with a day and evening meeting on Thursday, June 13, at Nevada. The morning and afternoon were spent at the State Hospital at Nevada. Dr. Paul Barone and his staff took the group of doctors on a grand round of the hospital showing some of the wards, the work shop, the occupational therapy rooms and the art studio, and through the kitchen and bakery. Dr. Barone and his staff are to be congratulated upon the type of an institution they are running for those patients in need of mental help. It was an enjoyable morning.

After a delightful lunch served complimentary by the staff and Dr. Barone, we reconvened in the auditorium. Here we entered into the scientific portion of the afternoon program. Dr. Edward Rinck of the hospital staff spoke on, "When Your Patient Enters"; Dr. James N. Haddock, St. Louis, presented a timely and well illustrated talk with slides on, "Psychiatry in General Practice," including "When and How to Treat, When to Refer, When to Hospitalize"; Dr. Joe Combs of the staff spoke then on "After the Hospital—What?"

After a 15 minute intermission with refreshing cold drinks, we reconvened and listened to Dr. Paul Barone, H. A. Kelso, Judge of Probate Court of Vernon County, and Dr. George Ulett, Director of the Division of Mental Health for the state of Missouri, who gave much information on the admission of patients and the various paper procedures which have to be gone through and particularly various types of admissions they have there. The entire day was full of meat for thought and instruction, and we came away knowing a great deal more about the state hospital.

The meeting of the day was followed with our annual meeting of lawyers and doctors from the five counties making up our Society. About 38 lawyers and doctors joined in the usual social hour at the Nevada Country Club at 6:30 p.m. followed by a fine dinner served by the management of the Nevada Country Club. Following dinner we went into the scientific meeting of the evening dealing with the medico-legal aspects of the new mental health legislation before the House in Jefferson City. Attorney Lynn Ewing, representative in the House from Vernon County, spoke on legal aspects and Dr. James N. Haddock of St. Louis spoke on the medical aspects of this legislation. After much discussion from the floor we closed the evening session not too sure as to what will be passed and how, but felt assured that progress in mental health has been made under the present set-up of the men-

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tal health program under Dr. Ulett, and we hope for the success of the anticipated program.

The entire session was an excellent one. Much credit goes to the director of arrangements, Roy Pearse, M.D., of Nevada, who spent hours arranging the program. Appreciation is extended to Roche Laboratories for financial assistance in the entire affair.

Carter Luter, M.D., *Secretary*

NINTH DISTRICT

E. A. STRICKER, ST. JAMES, COUNCILOR

Mid-Missouri County Medical Society

A dinner meeting of the Mid-Missouri Medical Society and the doctors' wives was held on Thursday night, June 27, at the Shepherd of the Hills Motel Restaurant in Lebanon. The evening festivities began with a social hour followed by dinner and then an interesting scientific program given by M. Wendell Dietz, M.D., Chief Radiologist, Burge Memorial Hospital, Springfield, Mo. Dr. Dietz chose as his subject, "Mammography and the Use of the Cobalt Machine."

M. K. Underwood, M.D., *Secretary*

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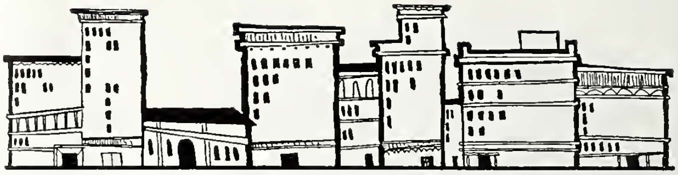
From the Medical Schools



UNIVERSITY OF MISSOURI

Meetings

Dr. Alston Braley, professor and chairman of the Department of Ophthalmology at the University of Iowa and President of the Midwest Regional Association of Eye Banks, along with approximately 30 amateur radio operators affiliated with the communication network of the Association, met in formal and informal sessions at the Medical Center. The sessions, under the sponsorship of the Lions Eye Tissue Bank of the University of Missouri, were held June 29 and 30.

The annual meeting of the Missouri State Anatomical Board was held at the Medical Center May 23. The officers of the Board attending the meeting were: President, Dr. Mildred Trotter, Washington University School of Medicine; vice president, Dr. Leroy E. Boling, Washington University School of Dentistry; secretary, Dr. M. D. Overholser, University of Missouri School of Medicine and chairman of the Department of Anatomy; treasurer, Dr. George E. Snyder, Kirksville College of Osteopathy and Surgery. Other out-of-town board members included Dr. James E. Herbertson, University of Kansas City School of Dentistry; Drs. Grover C. Stuckey and Pressley L. Crummy, Kirksville College of Osteopathy and Surgery; Drs. Calvin A. Richins and Ronan O'Rahilly, St. Louis University School of Medicine; Dr. Roy R. Peterson, Washington University School of Medicine; Dr. John R. Ring, Washington University School of Dentistry; and Dr. Otto C. Reinert of the Missouri Chiropractic College, St. Louis. Drs. E. W. Lowrance, F. Eugene Doenges, Jerry W. Brown and James A. Green of the Anatomy staff of the University of Missouri School of Medicine also attended the meeting.

A postgraduate Medical Education Symposium on "Infectious Diseases" will be held at the Medical Center on September 19, 1963. The topics covered will be "Viral Infections of the Eye," "Aseptic Meningitis," "Enterovirus Infections," "Home Care of Hospital Acquired Infections," "An Outbreak of Staphylococcal Infections in a Nursery," and "Technics of Antibiotic Selection in Bacterial Infections." The University of Missouri School of Medicine faculty will be joined by four guest faculty members for this symposium. For further information write: Executive Director, Postgraduate Medical Education, University of Missouri School of Medicine, Columbia, Mo.

Visitors

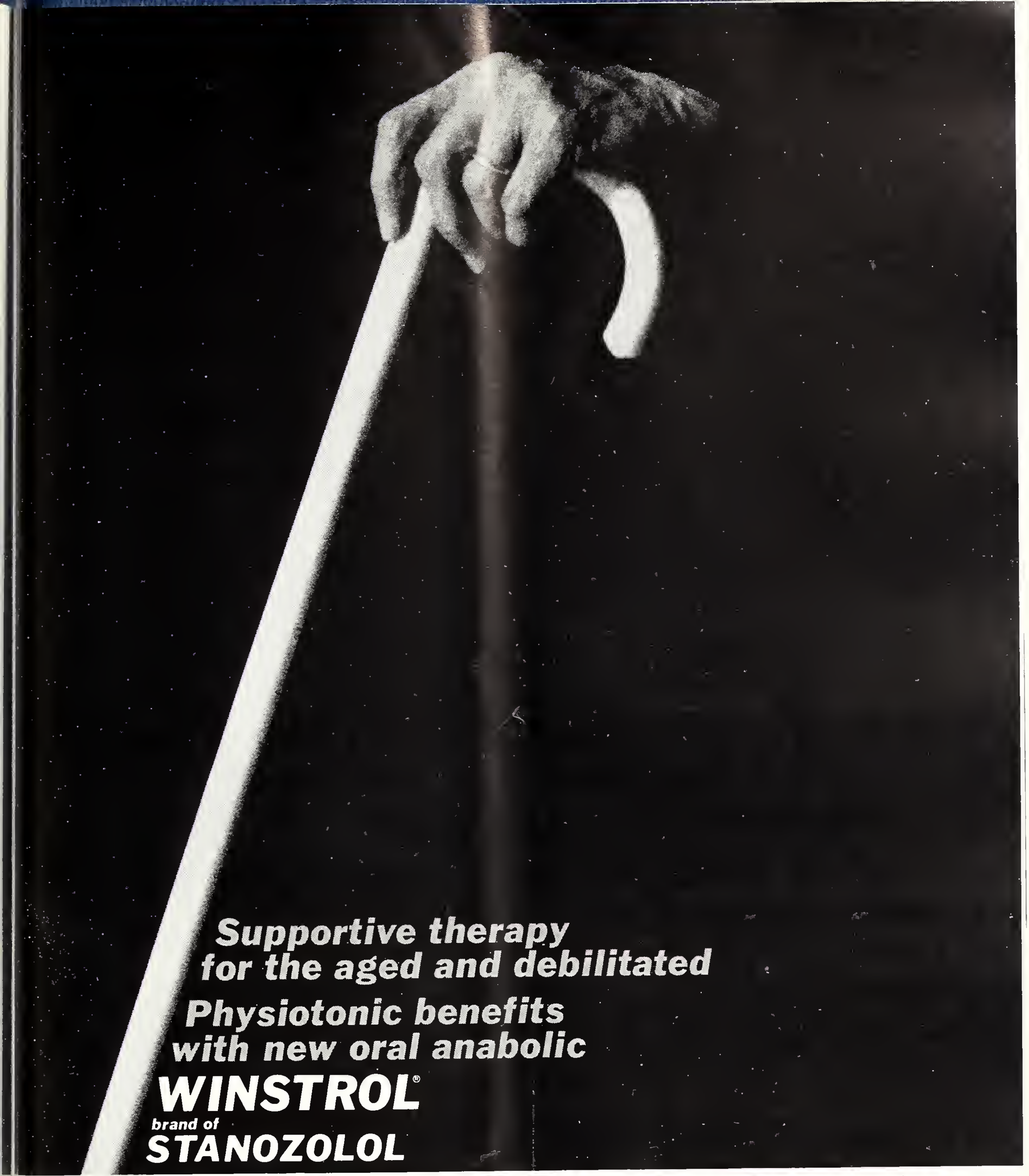
Dr. Margaret Shetland, Consultant in Nursing Education Department of Baccalaureate and Higher Degree Programs of the National League for Nursing, visited with the faculty of the School of Nursing to discuss the curriculum and other aspects in the program of the School of Nursing from June 17 to 22. Approximately 30 people attended the discussion.

Miss Gail Benjamin, R.N., Springfield, Ill., and Miss Helen Riza, R.N., Omaha, Nebraska, graduate students from Washington University School of Nursing, St. Louis, are spending six weeks as practice teachers in the School of Nursing. During this period they will participate in classroom and clinical teaching as well as in other faculty activities.

Trips and Talks

Dr. Ruby Potter, Miss Muriel Dayhoff and Mrs. Betty Black of the School of Nursing attended the University-Agency Public Health Nursing Work Conference in St. Louis June 18 through 20. The conference, sponsored by the Missouri Division of Health, was attended by 80 agency and faculty nurses in public health. Dr. Potter participated in a symposium on nursing education and Miss Dayhoff served on the program committee. The workshop was for identification and discussion of needs on the field experience program.

Kenneth K. Keown, M.D., professor of anesthesiology, and G. W. N. Eggers, M.D., associate professor of anesthesiology, attended a meeting sponsored by the American Medical Association in Atlantic City, N. J., June 16 through 20. Dr. Keown is secretary of the Section on Anesthesiology of the American Medical Association and Dr. Eggers was a guest examiner of the American College of Anesthesiologists Board Examinations. Dr. Keown also attended a discussion, sponsored by the United States Naval Hospital



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in Philadelphia, Pa., on the subject of "Preanesthetic Preparation and Evaluation of Cardiac Patients."

Dr. Eggers attended a meeting sponsored by the American Orthopedic Association in Homestead, Va., on June 24. A discussion was held on "Pre-Columbian Art and Medicine."

Dr. Keown attended a symposium by International Researchers sponsored by the National Research Council of the National Institute of Health in Charlottesville, Va., May 24 through 26. About 100 university anesthesiologists attended the symposium where the effects of anesthesia on circulation was discussed.

Dr. Warren P. Sights Jr., associate professor of surgery (neurosurgery), attended a meeting sponsored by the Missouri Association of Claimants and Attorneys in Reed Springs, Mo., on June 24. The topic at the meeting was "Clinical Examination of Nervous System."

Dr. Hugh E. Stephenson Jr., professor of surgery, attended the annual meeting of the Society for Vascular Surgery in Atlantic City, N. J., on June 16. A movie by Dr. Stephenson and William V. Miller, medical student, entitled "Some Surgical Complications of Coronary Artery Disease" was shown at the American College of Chest Physicians. While in New Jersey Dr. Stephenson attended the annual meeting of the American College of Chest Physicians. As chairman of the College Essay Committee he presented awards to the winners at the Annual President's banquet. He also attended the Undergraduate Medical Education Committee and College Essay Contest Committee of the American College of Chest Physicians.

John H. Landor, M.D., associate professor of surgery, was visiting professor of surgery at St. Luke's Hospital in Kansas City, Mo., on May 15. He spoke on the use of gastric freezing and hypothermia and the contributions of gastric physiology on surgery of the stomach. He also conducted rounds with the house staff.

New Academic Appointments

John Summers, M.D., Bethesda, Md., is instructor of neurology, effective July 1. Dr. Tsuyoshi Yamashita, Ontario, Canada, is instructor in surgery (ophthalmology), effective July 1. Herbert D. Weintraub, M.D., Boston, Mass., is instructor of radiology, effective June 15. Joan Lund, St. Paul, Minn., is to be assistant profes-

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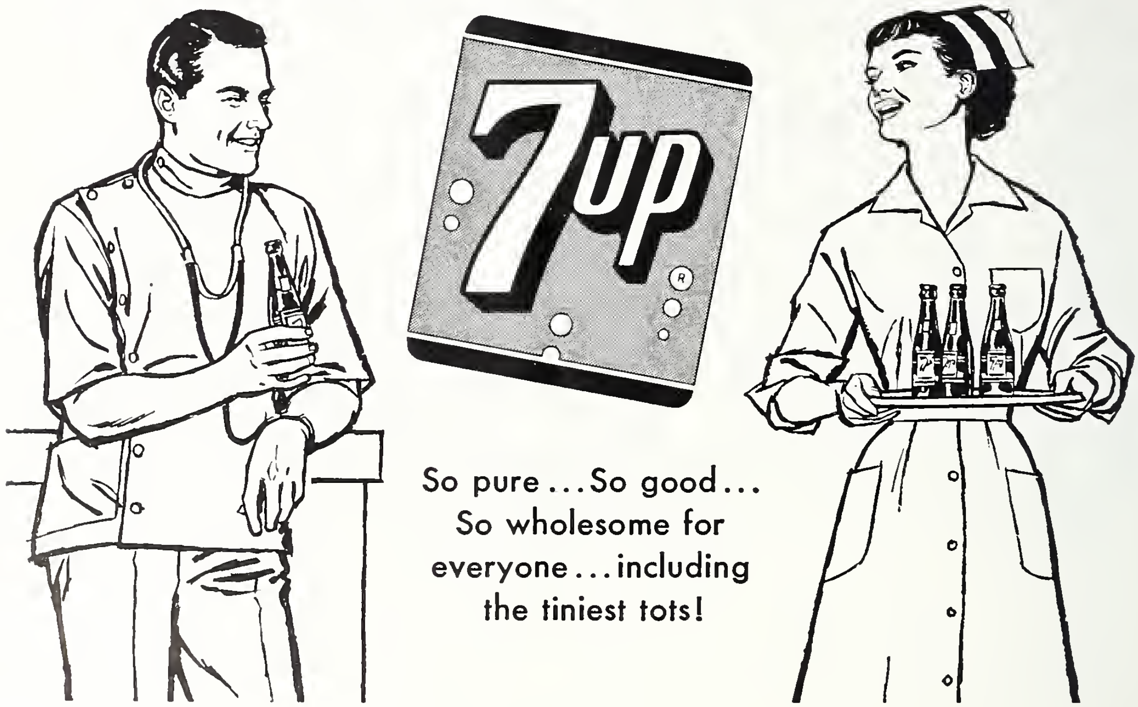

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sor of nursing, effective Sept 1. David G. McDonald, San Diego, Calif., is assistant professor in the Department of Psychiatry, effective July 1. Marchall Theodore Metzger, M.D., Fort Campbell, Ky., is assistant professor of surgery, effective July 1. J. Earle White, M.D., Norfolk, Va., is associate professor in medicine, effective June 1.

ELLIS FISCHEL STATE CANCER HOSPITAL

New appointments in the Department of Surgery effective July 1, include Dr. Burl Dillard, assistant surgeon; Dr. Galen Cook and Dr. Mary Zimmerman, chief residents, and Drs. Ronald Turner and Rahmatollah Simani, senior assistant residents.

Dr. Carl A. Moyer, Bixby Professor of Surgery, Washington University School of Medicine, conducted Surgical Grand Rounds July 20.

Dr. Raul Mercado Jr. replaced Dr. Jose Sala as the chief of radiotherapy July 1, coming here from the University of Maryland Medical School where he has served on the staff since 1957.

Dr. Sala will become director of the new Midwest Cancer Institute at Springfield, Missouri. He had been on the staff at the Ellis Fischel State Cancer Hospital since 1952.

After a one year fellowship in radiobiology at the Bowman Gray School of Medicine, Wake Forest College, Winston-Salem, N. C., Dr. Jose Castells returned as assistant in the radiotherapy department where he previously served as resident in 1960-62.

Dr. Carlos Perez-Mesa joined the department of pathology July 1. He served in the department of surgical pathology, Barnes Hospital, St. Louis, before joining the staff at Roswell Park Memorial Institute, Buffalo, N. Y., where he has served since 1960.

WASHINGTON UNIVERSITY

Dr. Sherwood Moore Dies

Dr. Sherwood Moore, first professor of radiology at Washington University School of Medicine, died July 9 of a heart attack. Dr. Moore, 83, was named emeritus professor in 1949.

Dr. Moore was a 1905 graduate of Washington University School of Medicine. He interned at St. Louis City Hospital and was named the first resident at the first hospital to bear the Wash-

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ington University name the following year.

He was in the private practice of surgery in St. Louis from 1907 to 1913. In 1916 he was the first intern in x-ray specialization at Massachusetts General Hospital.

In 1917 he returned to Washington University School of Medicine as assistant in surgery and radiology. In 1927 he was appointed professor of radiology and in 1930 director of the Edward Mallinckrodt Institute of Radiology upon its opening. Dr. Moore also served as roentgenologist to Barnes, St. Louis Children's and Shriner's Hospitals.

After retiring, Dr. Moore completed a medical text on a disease that results in the thickening of bones at the front of the skull, on which he had done extensive research at Washington University.

He was a former president of the American Roentgen Ray Society and a director at large of the American Cancer Society.

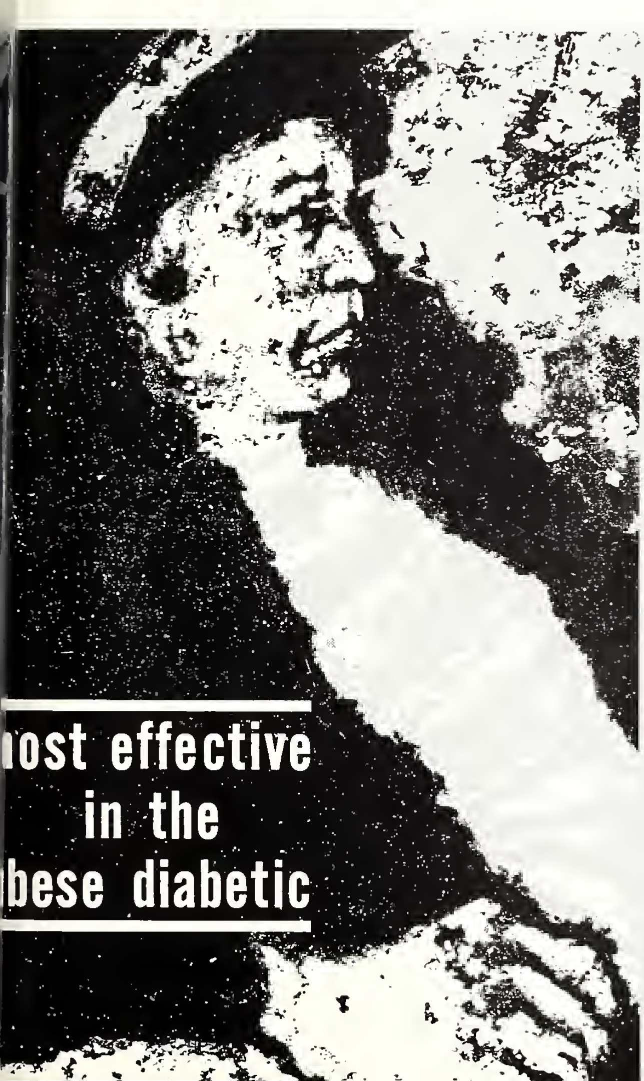
Among the honors received by Dr. Moore were the Gold Medal of the St. Louis Medical Society (received with Dr. Evarts Graham, Dr. Warren Cole and Dr. Glover Copher) in 1927; honorable mention by the AMA and Canadian Medical Associations in 1935; Silver Medal of the American Academy of Orthopedic Surgeons, 1936; honorable mention of the Southern Medical Association, 1937; Bronze Medal of the Mississippi Valley Medical Society in 1938; First Award of the Radiological Society of North America, 1939; certificates of merit, American Roentgen Ray Society, 1936, AMA, 1936 and 1939.

Grants Awarded

Washington University School of Medicine has received $50,000 from the Avalon Foundation to provide scholarship aid for medical students. This is the foundation's third grant to the medical school for student aid. The others, given within the last 10 years, totaled $20,000.

Dr. Luis Glaser, associate professor of biochemistry, received a $40,000 award from the National Science Foundation to study the synthesis of teichoic acid, a major component of the bacterial cell wall.

Dr. Glaser and his associates have identified an enzyme system which is responsible for the production of teichoic acid in the cell wall. Through study of this system they hope to obtain further knowledge of the bacterial cell wall production and possibly ways of inhibiting



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Insulin is still the essential hypoglycemic agent for the ketoacidosis-prone diabetic. However, in the ketoacidosis-resistant obese diabetic phenformin appears to be the hypoglycemic of choice to help avoid weight gain or reduce adiposity, a factor tending to make control more difficult and to increase the likelihood of complications.

Summary: Indicated in stable adult diabetes, sulfonylurea failures and unstable diabetes. Gastrointestinal side effects occurring more often at higher dosage levels abate promptly upon dosage reduction or temporary withdrawal. Occasionally an insulin-dependent patient will show "starvation" ketosis (acetonuria without hyperglycemia) which must be differentiated from "insulin-lack" ketosis, and treated accordingly. Use with caution in severe liver disease. Not recommended without insulin in acute complications (acidosis, coma, infections, gangrene, surgery). Consult product brochure for full information.

Bibliography: 1. Williams, R. H.: Textbook of Endocrinology, Ed. 3, Saunders, Philadelphia, 1962, p. 610. 2. Gordon, E. S.: Metabolism 11:819, 1962. 3. Grodsky, G. M. et al.: Metabolism 12:278, 1963. 4. Sadow, H. S.: Metabolism 12:333, 1963. 5. West, K. M. and Tophoj, E.: Metabolism 10:689, 1961. 6. Yalow, R. S. and Berson, S. A.: Diabetes 9:254, 1960. 7. Weller, C. et al.: Scientific Exhibit, A.M.A., June 1962. 8. Weller, C. et al.: Metabolism 11:1134, 1962. 9. Radding, R. S. et al.: Metabolism 11:404, 1962.

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the process and consequently destroying the bacteria.

Drs. Carl A. Moyer, Bixby professor and head of the department of surgery; J. Barrett Brown, professor of clinical surgery; Louis T. Byars, associate professor of clinical surgery, and Walter B. Goldfarb, instructor in surgery, received a grant of $357,934 through Barnes Hospital from the John A. Hartford Foundation, Inc., of New York. They will study uses of a salt solution to replace some functions of skin destroyed by burns. With the new method of treatment using the solution, pain is reduced and damaged skin is removed with minimal discomfort and without loss of blood.

The Fern Waldman Memorial Fund presented a check for $5,000 to St. Louis Children's Hospital and Washington University School of Medicine. This is the seventeenth annual grant for research in cancer affecting children since the fund was begun in 1946 in memory of 11 year old Fern Waldman. Over $67,000 has been raised to this time.

Dr. Oliver H. Lowry, professor and head of the department of pharmacology, is a recipient of the John Scott Award for "ingenious men and women who make useful inventions." The award, consisting of a copper medal, a scroll and $2,000, was established 147 years ago by John Scott, a chemist of Edinburgh, Scotland. Dr. Lowry was honored for the Lowry balance, a method of isolating, preparing, weighing and chemically studying single nerve cells and subcellular particles.

Washington University School of Medicine has received a $5,000 unrestricted eye research grant from Research to Prevent Blindness, Inc. Previous grants from the organization have supported studies of immunogenic mechanisms in eyes afflicted with glaucoma.

A total of $43,200 in summer fellowships was awarded to 72 students to conduct research at Washington University School of Medicine. The fellowship program is supported largely by the U. S. Public Health Service, with additional grants from Lederle Laboratories and the Tobacco Industry Research Committee.

Physicians in Algiers

Seven faculty members from Washington University School of Medicine will return to St.

(Continued on page 886)

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Louis September 1 after a one month stay in Algiers assisting at the Beni Messous Hospital as part of the Medico program of CARE.

The seven, including an internist, three surgeons, an anesthesiologist, a pediatrician and an ophthalmologist, were accompanied by two outstanding senior students from the School of Medicine.

They were the fourteenth group to work in the hospital, which was left virtually without staff at the end of the seven years of the Algerian War for Independence. They were active in treatment and care of both hospitalized and outpatients, with such health problems as tuberculosis, trachoma and a backlog of war injuries.

The Washington University team included Drs. Harvey R. Bernard, associate professor of surgery; Kurt A. Hahn, instructor in ophthalmology; Malcolm L. Peterson, assistant professor of medicine; Mabel L. Purkerson, instructor in pediatrics; John Shields, associate professor of anesthesiology; Warren G. Stamp, associate professor of orthopedic surgery, and Jessie Ternberg, assistant professor of surgery.

Ronald Evens of Herculaneum, Mo., and James Ellsasser of Mishawaka, Ind., were the student members of the team.

The group was also asked to confer with the faculty at the Algiers Medical School, which is undergoing reorganization. The Mustapha Teaching Hospital of the School was mined during the war and is now being rebuilt.

Medico has been providing physician teams for one month stays for a little over a year. The physicians assist in the hospitals previously staffed by the French who left the country during the hostilities. Medico has also provided groups of nurses and technicians who spend three month periods in the hospital.

SAINT LOUIS UNIVERSITY

Meetings

Dr. Edward A. Doisy Jr., professor of biochemistry, and Dr. William Elliott, professor of biochemistry, attended the meeting of the International Conference on the Biochemistry of Lipids held in Stockholm, Sweden, August 5 to 7. Dr. Elliott delivered a paper before that meeting entitled "Biliary Acids Derived from Cholestan." Dr. H. J. Karavolas, who was awarded his Ph.D. in biochemistry in June, coauthored the paper.

Dr. Doisy also attended the Sixth International Congress on Nutrition at Edinburgh, Scotland, sponsored by Prince Philip from August 9 to 15. He delivered a paper entitled "Nutritional In-

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fluences on Composition of Bile." The paper was coauthored by Eugene Barry, a graduate student in biochemistry.

From September 3 to 14, Dr. Doisy was scheduled to attend the NATO Advanced Study Institute to be held in Newcastle, England. He was scheduled to deliver a paper entitled, "Bile Acid Metabolism in Animals" on September 4. He also was to chair a session entitled "Excretion in Bile" on September 9. Dr. Karavolas was scheduled to deliver a paper entitled "Metabolism of Neutral Sterols."

Physicians and biochemists from all over the world were invited to attend the three meetings.

Dr. Ronan O'Rahilly, director of the department of anatomy, attended a meeting of the International Embryological Conference at the University of Helsinki in Finland from July 21 to 25. He is also scheduled to attend an Anatomy Meeting at the Institute of Anatomy in Brussels, Belgium, from August 31 to September 5.

Rev. Edward Drummond, vice-president for the Medical Center, attended a series of meetings in June as Chairman of the Commission on Colleges and Universities for the North Central Association of Colleges and Secondary Schools. He represented the North Central Association at the Middle States Association of Colleges and Secondary Schools which held an executive session at Skytop, Pa., June 20 to 22.

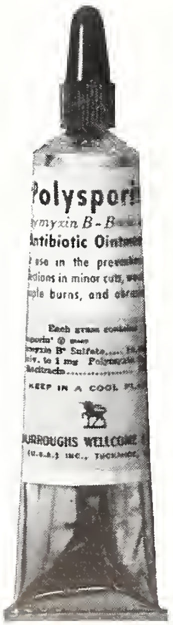
He also attended the Executive Board meeting of the Commission on Colleges and Universities at the North Central Association of Colleges and Secondary Schools, which met in Chicago June 24 to 26. Father Drummond participated in discussions on accreditation of colleges, the organization of the Commission, developments relative to the National Federation and review of the matter of title of degrees.

Following these meetings, Father Drummond attended the North Central Association's Budget Committee meeting and Executive Committee meetings.

Dr. G. O. Broun, dean, attended the American Medical Alumni Association meeting in Atlantic City where he reported on the Medical School before a St. Louis University medical alumni reunion. A dinner dance sponsored by the Medical Alumni Association was held at the Ambassadore Hotel.

In the News

Dr. Rene Wegria, director of the department of pharmacology, has received an $8,690 grant for research in heart disease from the Life Insurance Medical Research Fund.



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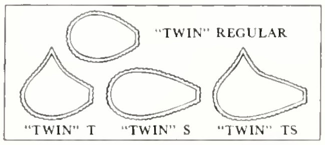

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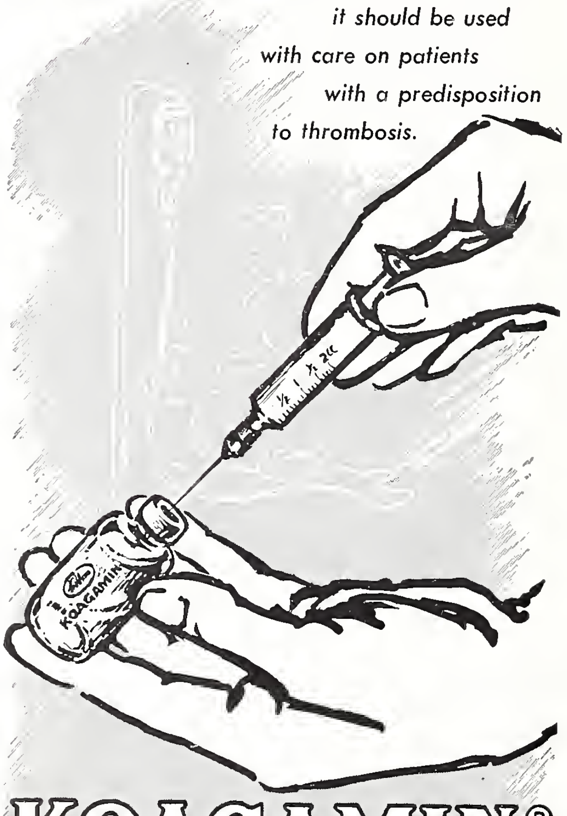

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Dr. Edmund A. Smolik and Dr. Francis P. Nash, section of neurosurgery, were recipients of an award of merit for a paper entitled "Cerebral Angiography" at a meeting of the International College of Angiology held in Atlantic City.

They reported a study of a new contrast medium. Their investigation included chemical, biologic and pharmacologic assessment as well as clinical evaluation of Conray, a product of Mallinckrodt Company in St. Louis.

Dr. Ronan O'Rahilly, director of the department of anatomy, is the coauthor of the second edition of a textbook entitled "Anatomy." Other coauthors are: Dr. Ernest Gardner, Chairman, department of anatomy, Wayne State University, and Dr. Donald J. Gray, professor of anatomy at Stanford University.

Following an initial section on important systemic considerations, the body is examined according to the major natural subdivisions—thorax, upper limb, head and neck—paralleling the laboratory dissection. Keyed to modern teaching methods, the writers give special attention to living anatomy, rather than the anatomy of the cadaver.

Dr. R. O'Rahilly is also the author of "Living Anatomy," a textbook published by the Cork University Press in 1949, while he was associated with the University of Sheffield.

Library Memorials

The Medical Center Library has received two valuable gifts, one in memory of a former faculty member, the other for a medical alumnus. The professional library of the late Dr. Herman Maas, assistant professor of clinical surgery, was given to the library at his specific request. The library consisted of 151 books, 43 bound, and 277 unbound periodicals, 61 pamphlets and pathological slides.

A $1,000.00 endowment has been established for the development of the Medical Library collections in memory of Dr. Fabian Matthew Mihelic, a 1938 alumnus. The gift was made by his widow, Mrs. Elizabeth B. Mihelic of Pittsburgh, Pa. The annual income for this endowment will be used to purchase books.

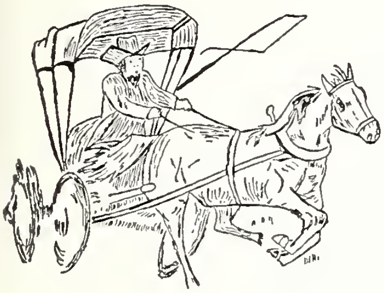
Founder's Week

Founders Week will be observed at St. Louis University from October 17 to 22. A program of activity for graduates of the St. Louis University School of Medicine has been announced by William C. Trigg Jr., Executive Secretary, Medical Alumni Association. A Dean's reception will begin the medical alumni program. Dr. G. O.

(Continued on page 896)

LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

The subject of insulin, at the present time, is attracting a great deal of attention in both the medical and the lay press. The discovery of this new remedy for diabetes by Dr. F. C. Banting, has been called the most important medical achievement of the decade. The fact that insulin treatment has to be continued indefinitely makes the cost an important item. The present retail price at 5 cents a unit makes the usually required daily dose of from 10 to 30 units cost from 50 cents to $1.50.

News dispatches report that two Italian scientists, Prof. Giovanni di Cristina and Prof. Guiseppi Carolla have isolated the specific germ of scarlet fever. If this be true, it is a great advancement, but so far no authoritative comfirmation has been made.

Dr. Roux, of Pasteur Institute, Paris, recently announced, according to news dispatches before the Academy of Science that a vastly improved method, providing adequate means of halting epidemics, of vaccinating for measles has resulted from the experimentation of Drs. Nicolle and Conseil of Pasteur Institute.

Dr. Mazyck P. Ravenel, of Columbia, professor of preventive medicine at University of Missouri, has been elected an honorary member of the National Tuberculosis Association.

Dr. G. Wilse Robinson, Kansas City, President of the State Association, has recently purchased the Dyer home in Kansas City for $40,000. His plan is to convert it into a sanatorium. The home is constructed from materials assembled from the Victoria Building, headquarters of the British delegation at the Chicago World's Fair in 1893, and from the Alaska, Hoo Hoo, Indian Territory and Louisiana buildings of the St. Louis Exposition in 1904.

TWENTY-FIVE YEARS AGO

The National Association of Coroners will hold its annual convention in St. Louis at the Statler Hotel on August 29, 30 and 31. All coroners of the state are invited to attend. Dr. L. R. Padberg, St. Louis, is vice president of the organization. Dr. S. W. Gerber, Cleveland, is president and Dr. Peter Zisch, Milwaukee, secretary and treasurer.

The cornerstone of the Malcolm A. Bliss Psychopathic Institute, being erected at Carroll and Grattan Streets, St. Louis, was laid June 26. The $150,000 reproduction of the Sir Luke Fildes' masterpiece, "The Doctor," first shown by the Petrolagar Laboratories at the Century of Progress Exposition, Chicago, in 1933, was recently presented by its owners to the new Rosenwald Museum of Science and Industry, Chicago.

The Cape Girardeau County Medical Society held a dinner meeting at the Colonial Tavern, Cape Girardeau, June 13. Dr. W. T. Pride, Memphis, Tennessee, was a guest of the Society. A stereopticon, purchased on approval, was used for the first time. After the lecture approval of the lantern was expressed and a motion carried ordering the lantern purchased.

The North Central Counties Medical Society met at the office of Dr. S. L. Freeman, Kirksville, on June 2, with the president, Dr. J. S. Gashwiler, Novinger, presiding. Dr. H. B. Goodrich, Hannibal, Councilor of the Second District, gave an interesting and instructive talk reporting the activities of the State Medical Association and discussed trends towards the socialization of medical practice and some of the problems that confront medical practitioners.

TEN YEARS AGO

Citing his broad background from drug store janitor to M.D., his many and varied religious contacts throughout his life, and his leadership in the foundation of the A.A.G.P., the Kansas City Academy elected M. B. Casebolt, M.D., Kansas City, Practitioner of the Year.

Kansas University Medical Center honored MoMedic Jesse D. Rising, M.D., Kansas City, at the end of the school year, when he was presented the Kansas Clock award as the G.P. in

Kansas City who had given most freely of his time to the medical school in the last year.

Beginning June 1, the second home care program in the Midwest was started in St. Louis by Jewish Hospital under the direction of David Littauer, M.D., Executive Director. The first program was started at the Menorah Hospital, Kansas City.

The *Rolla Herald* reports that $166,000 of a $400,000 bond issue voted in 1947 for Phelps County Hospital has been paid off. It is anticipated that all of the bonds will be paid by February 1962.

At the city election at Raytown, Dillard M. Eubank, M.D., was elected as member of the Council.

SCHOOLS

(Continued from page 890)

Broun Sr., dean, School of Medicine, will greet alumni in Miller Hall, Firmin Desloge Hospital on Thursday, October 17. A scientific program will be held in Miller Hall Friday, October 18 from 9:00 to 12:00 noon. Dr. Vallee L. Willman, professor of surgery and a 1951 alumnus of the School of Medicine, is Clinical Academic Chairman. A Dean's luncheon will follow the program in the Firmin Desloge Hospital Cafeteria, where alumni will greet the Medical Alumni Merit Award Winner. Friday evening, October 18 will be devoted to individual reunion class dinners. Alumni affairs will be climaxed by the President's Alumni Dinner Dance to be held at Norwood Hills Country Club on Saturday evening, October 19. Dr. John F. Shaner will retire as president and Dr. R. Emmet Kelly will be installed as the new president. Dr. M. Krebs, a 1938 alumnus, is General Chairman for Founders Week, while Dr. William Gillespie, a 1948 alumnus, is Chairman for Reunion Classes for Founders Week.

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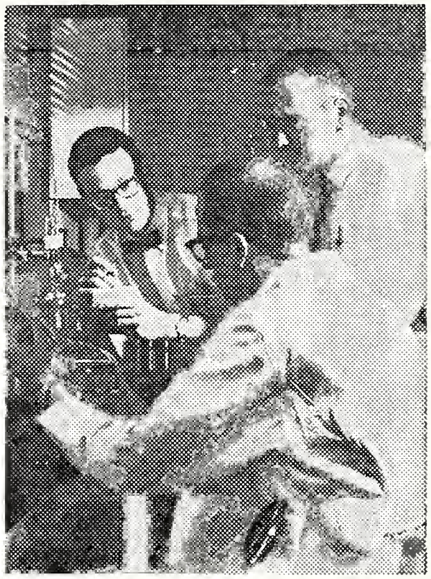

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WASHINGTON

It is indicated now that any hearings on the eldercare issue will not be held before the middle of October, if then. The Javits-Kuchel Advisory group is supposed to offer a compromise plan within a short time.

* * *

The Congress does not believe that the interest in eldercare has decreased, either pro or con, for the order for the fact book to assist students in the debates scheduled for schools this year on the subject, or a similar one, "Resolved: That Social Security Benefits Should Be Extended to Include Complete Medical Care," has been doubled.

* * *

It was predicted that the House Ways and Means Committee would formally approve the proposed tax bill before the end of September and that action on the floor of the House would follow soon after. This might serve to clear the way for hearings on H.R. 3920, the current King-Anderson bill.

* * *

On August 27, by voice vote, the House passed H.R. 7544, Maternal and Child Health and Mental Retardation Planning Amendments. The bill would amend the Social Security Act to assist states and communities in preventing and combating mental retardation through an expansion and improvement of the Maternal and Child Health, and Crippled Children's Program. The program would be implemented through the provision of prenatal, maternity and infant care for individuals with conditions associated with child bearing that may lead to mental retardation. Under the amended version, the agency which could determine eligibility was not spelled out. The determination of need is specifically delegated to the state or local health agency. Hearings had not been scheduled by the Senate Finance Committee.

* * *

The National Institutes of Health approved almost $17 million worth of research contracts in the second quarter of this year. There were 118 new contracts totaling $8,673,821. Changes in existing contracts resulted in an additional $8,181,885.

* * *

The Public Health Service awarded 615 research grants and 1,089 fellowships in July, amounting to $27,690,897. Support of 1,144 new research projects, fellowships and research career awards accounted for $15,486,883 and the remainder was for extension of 334 previously approved research undertakings and 227 fellowships.

* * *

The House by a vote of 272 to 102 passed and sent to the Senate a bill authorizing a four year $103 million program for combatting air pollution. Under the legislation the Department of Health, Education and Welfare for the first time would be authorized, in some cases and under certain conditions, to go into court to seek binding orders against industrial or other contamination of air. The bill expands existing work of HEW to counter what lawmakers called a growing threat to health from contaminated air.

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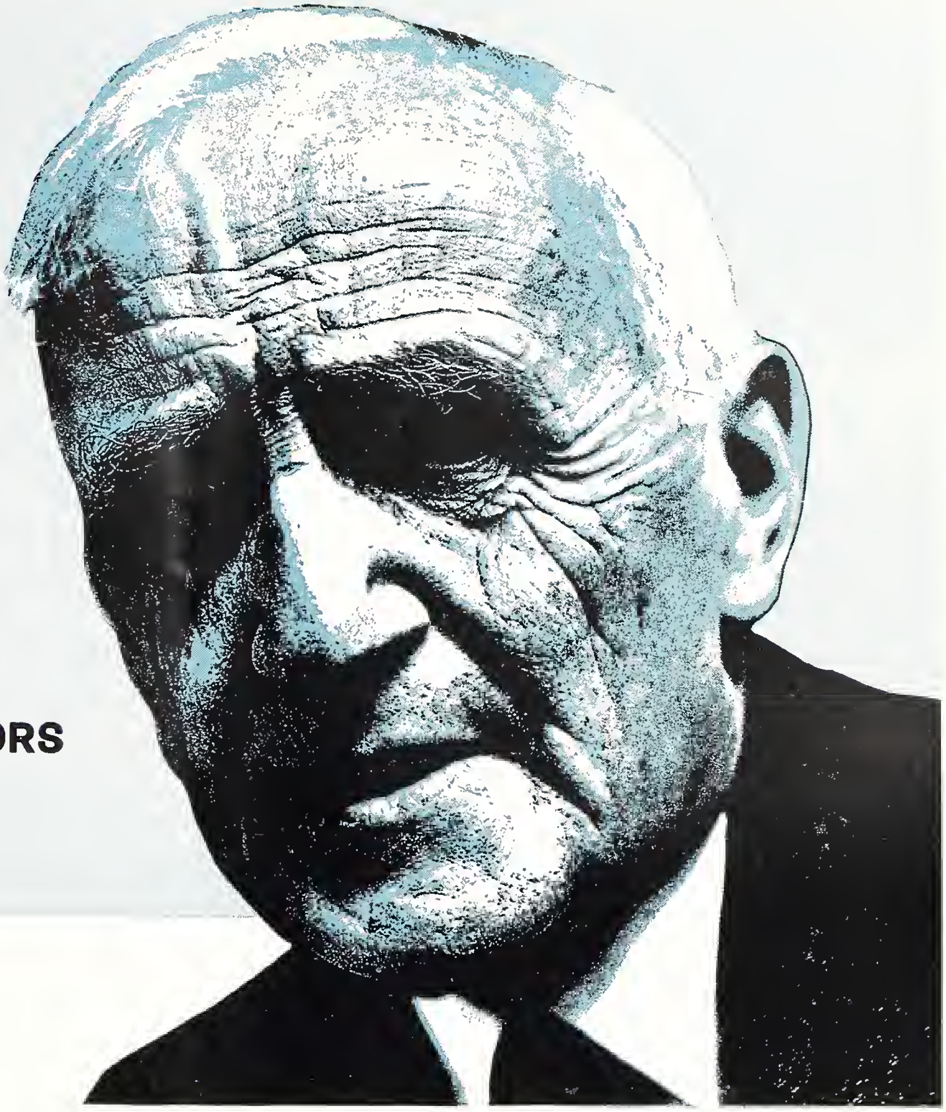

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[1] Ford, R. A., and Blanchard, K. P.: J.-Lancet 78:185, 1958.

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Since its introduction three and a half years ago, the joint St. Louis Blue Shield-Blue Cross major medical program has been chosen by a wide range of industrial employee groups as their protection against the costs of catastrophic illness. At the close of the first six months of 1963, a total of 68,283 persons had enrolled in the "Blue Major" programs. These persons represent 137 industrial groups, including the federal employee group, in the area served by the two St. Louis plans.

Blue Major coverage is a broad and extensive supplement to basic Blue Cross-Blue Shield protection. Each group which enrolls in the major medical program first selects either a standard or preferred basic program. Therefore, every member of a Blue Major group is protected against both average hospital and medical-surgical expenses and those incurred with unusually serious or long term illness.

Originally, the Blue Major program was designed for groups of 50 or more persons. After two years of experience with the program, the plans found that the program could be maintained on a sound financial basis while extending its coverage to smaller groups, and the enrollment regulations were liberalized to make the program available to groups of from 25 to 49 members.

In April of this year, another extension of major medical protection was made with the introduction of the "Blue Major III" program, which is designed for groups with as few as 10 participants. The extension of the series to smaller groups has made it possible for more people in the area to take advantage of the Blue Cross-Blue Shield major medical protection. Utilization experience is being closely watched to assure that the financial stability of the program will be maintained.

Major medical programs consist fundamentally of a cash deductible paid by the member, copayment of a large percentage of the incurred covered expenses by the plans and a large maximum benefit. Blue Major medical benefits begin when the member's basic benefits have been expended, thus including important initial protection.

Blue Major programs for groups of 25 or more members are flexible in several aspects. The cash deductible can be any amount selected by the group from $50 up to $300 and more. The copayment percentage, usually 80 per cent plan—20 per cent member or 75-25 per cent—is also chosen by the group, as is the maximum benefit amount, which can be $5,000, $10,000 or more.

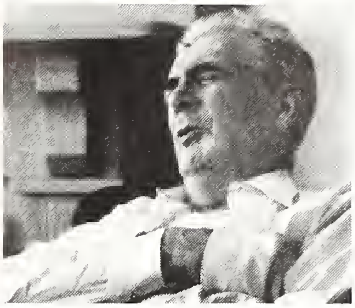
Benefits provided by the program include the full range of health care services rendered by the hospital, physician's office or in the home. Included are the services of physicians, hospital facilities and services, special duty nursing, drugs and other medical and surgical supplies.

Because of the smaller size of the groups eligible for Blue Major III, the enrollment regulations for this program differ to some extent from those established for the larger groups. The cash deductible is set at $100, the copayment percentage at 75-25 per cent and the maximum benefit amount at $5,000. A member of Blue Major III must be hospitalized before the program goes into effect. During and after hospitalization, all services and supplies included in the programs for larger groups are covered.

The cost of Blue Major protection varies, depending upon the composition of the group and the program chosen. For community-rated dues for Blue Major III over standard basic coverage are $0.65 a month for an individual or $1.90 for a family membership.

he insomniac

The tense, nervous patient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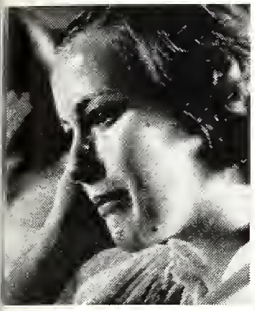
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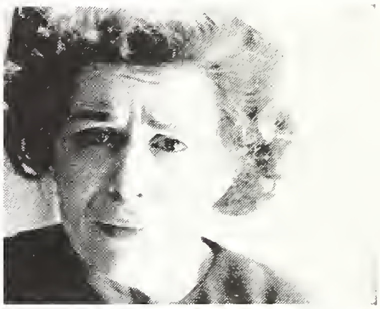
Tension headache

The woman in menopause


Anxious depression

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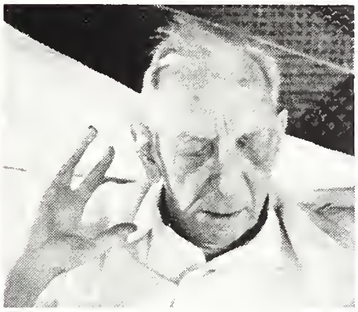
The agitated senile patient

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Missouri Academy of General Practice

THE FIFTEENTH ANNUAL SCIENTIFIC ASSEMBLY

(Acceptable for 10 hours Category I Credit by AAGP)

PROGRAM

Saturday, October 26, 1963

9:00 a.m. Business Session.

SYMPOSIUM ON PHYSICAL MEDICINE AND REHABILITATION

10:00 a.m. **General Principles Involved in the Rehabilitation of the Arthritic,** Donald L. Rose, M.D., Kansas City, Kansas, Professor and Chairman, Department of Physical Medicine, University of Kansas School of Medicine.

10:20 a.m. **Physical Agents in the Home and Office Management of Arthritis,** Joseph N. Schaeffer, M.D., Detroit, Professor and Chairman, Department of Physical Medicine and Rehabilitation, College of Medicine, Wayne State University.

10:40 a.m. Intermission to View Exhibits.

11:10 a.m. **General Principles Involved in the Rehabilitation of the Hemiplegic,** Lester E. Wolcott, M.D., Columbia, Chief, Section of Physical Medicine and Rehabilitation, University of Missouri School of Medicine.

11:30 a.m. **Physical Agents in the Home and Office Management of Hemiplegia,** Joseph N. Schaeffer, M.D., Detroit.

11:50 a.m. **Panel Discussion on Physical Medicine and Rehabilitation.**

12:30 p.m. Lunch and Exhibits.

SYMPOSIUM ON EYE, EAR, NOSE AND THROAT

2:00 p.m. **The Significance of Hoarseness in Various Age Groups,** Daniel C. Baker, Jr., M.D., New York City, Clinical Professor of Otolaryngology, College of Physicians and Surgeons, Columbia University.

2:20 p.m. **Hearing Loss in Children,** G. O. Proud, M.D., Kansas City, Kansas, Professor and Chairman, Department of Otorhinolaryngology, University of Kansas School of Medicine.

2:40 p.m. **The Tonsil and Adenoid Problem in Children,** Daniel C. Baker, Jr., M.D., New York City.

3:00 p.m. Intermission to View Exhibits.

3:30 p.m. **Ocular Trauma,** Larry L. Calkins, M.D., Kansas City, Kansas, Associate Clinical Professor of Ophthalmology and Medicine (Section of Neurology), University of Kansas School of Medicine.

3:50 p.m. **External Diseases of the Eye,** John A. Buesseler, M.D., Columbia, Professor of Surgery and Chief, Section of Ophthalmology, University of Missouri School of Medicine.

4:10 p.m. **Corticosteroids in Ocular Disease,** Larry L. Calkins, M.D., Kansas City, Kansas.

4:30 p.m. **Panel Discussion on Eye, Ear, Nose and Throat.**

PRESIDENT'S INSTALLATION BANQUET

7:30 p.m. **President's Installation Banquet.**
Space Travel and Space Medicine, Hans G. Clamann, M.D., Department of Bioastronautics, School of Aerospace Medicine, Brooks AFB, Texas.

(Continued on page 918)

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Sherry-flavored GEVRABON provides a palatable means of maintaining good nutritional levels of vitamins. Suggested serving: as an apéritif, pour GEVRABON over ice cubes and take before a meal. The comprehensive formula in a light liquid vehicle is particularly appropriate for geriatric patients.

Each fluid ounce (30 cc.) contains: Vitamin B_1, 5 mg.; Vitamin B_2, 2.5 mg.; Vitamin B_6, 1 mg.; Vitamin B_{12}, 1 mcgm.; Niacinamide, 50 mg.; Inositol, 100 mg.; Choline, 100 mg.; Pantothenic Acid, 10 mg.; Potassium, 10 mg.; Zinc, 2 mg.; Iodine, 0.1 mg.; Magnesium, 2 mg.; Manganese, 2 mg.; Calcium, 48 mg.; Phosphorus, 39 mg.; Iron, 20 mg.; Alcohol, 18%. DOSAGE: 2 tablespoonfuls (30 cc.) daily.

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6558-3

Sunday, October 27, 1963

SYMPOSIUM ON NEUROLOGY

9:00 a.m. The **Differential Diagnosis of Dizziness,** C. H. Millikan, M.D., Rochester, Minnesota, Consultant in Neurology, Mayo Clinic, Professor of Neurology, Mayo Foundation, Graduate School, University of Minnesota.

9:20 a.m. **The Differential Diagnosis of Brain Tumors versus Cerebral Vascular Disease,** Dewey K. Ziegler, M.D., Kansas City, Mo., Associate Professor in Neurology, University of Kansas School of Medicine and at the University of Missouri School of Medicine.

9:40 a.m. **The Common Pressure Neuropathies,** Frank M. Howard, Jr., M.D., Rochester, Minnesota, Consultant in Neurology, Mayo Clinic, Instructor in Neurology, Graduate School, University of Minnesota.

10:00 a.m. **Current Concepts in the Treatment of Occlusive Cerebrovascular Disease,** C. H. Millikan, M.D., Rochester.

10:20 a.m. Intermission to View Exhibits.

11:00 a.m. **The Diagnosis and Treatment of Parkinsonism,** Frank M. Howard, Jr., M.D., Rochester.

11:20 a.m. **The Significance of Muscle Weakness,** Violet Matovich, M.D., Columbia, Chief, Division of Neurology, University of Missouri School of Medicine.

11:40 a.m. **Panel Discussion on Neurology.**

12:15 p.m. Lunch and Exhibits.

SYMPOSIUM ON THE MANAGEMENT OF RELATED MEDICAL-SURGICAL PROBLEMS

1:30 p.m. **The Prevention of Strokes,** Ormand C. Julian, M.D., Chicago, Professor of Surgery, University of Illinois College of Medicine.

1:50 p.m. **Medical versus Surgical Treatment of Hyperthyroidism,** William M. McConahey, M.D., Rochester, Minnesota, Staff of Internal Medicine, Mayo Clinic and Associate Professor of Medicine in the Mayo Foundation Graduate School of the University of Minnesota.

2:10 p.m. **Anesthesia Problems Caused by Anti-Hypertensive Drugs,** E. L. Frederickson, M.D., Kansas City, Kansas, Professor of Anesthesiology, University of Kansas School of Medicine.

2:30 p.m. Intermission to View Exhibits.

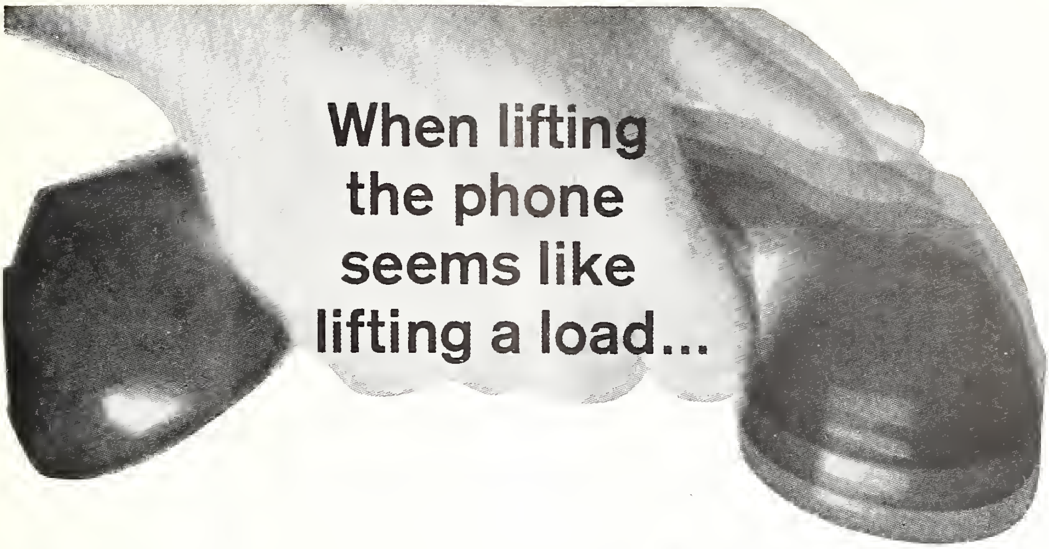
3:00 p.m. **Anti-Coagulants and Surgery,** Ormand C. Julian, M.D., Chicago.

3:20 p.m. **Gastric Hypothermia in the Treatment of Peptic Ulcer,** Arthur Klotz, M.D., Kansas City, Kansas, Professor of Medicine and Chief, Section of Gastroenterology, University of Kansas School of Medicine.

3:40 p.m. **Treatment of the Non-Toxic Goiter,** William M. McConahey, M.D., Rochester.

4:00 p.m. **Panel Discussion of the Management of Related Medical-Surgical Problems.**

4:30 p.m. Adjournment.



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ISUPREL® BRAND OF ISOPROTERENOL
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MISTOMETER® Q.I.D.

ISUPREL (isoproterenol/Winthrop) "...can increase breathing efficiency in pulmonary emphysema."[1] The patient with chronic obstructive pulmonary disease "...should use the bronchodilator four times daily whether or not he experiences episodes of bronchospasm."[2]

Use of the Mistometer eases breathing by relaxing bronchospasm, and aiding productive cough. "Of the aerosol bronchodilators, ISUPREL (isoproterenol/Winthrop) seems to be the best...."[3] Conscientious use q.i.d. improves vital capacity and exercise tolerance.

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With use of ISUPREL (isoproterenol/Winthrop), occasionally tachycardia, palpitation, nervousness, nausea and vomiting or headache may occur, especially with excessive dosage. Adjust dosage carefully in patients with hyperthyroidism, acute coronary disease, cardiac asthma or limited cardiac reserve, and in persons sensitive to sympathomimetic amines.

Caution: Epinephrine should not be administered with ISUPREL (isoproterenol/Winthrop) as both drugs are direct cardiac stimulants and their combined effects may induce serious arrhythmia. If desired they may, however, be alternated, provided an interval of at least four hours has elapsed.

Dosage: Two inhalations at least one minute apart four times daily, regularly. Inhalations may be taken more often if indicated.

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1. Reeves, J. E.: *M. Times* 90:512, May, 1962. 2. Williams, M. H., Jr.: *M. Sc.* 11:433, March 19, 1962. 3. Peckenschneider, L. E.: *J. Kansas M. Soc.* 56:486, Sept., 1955.

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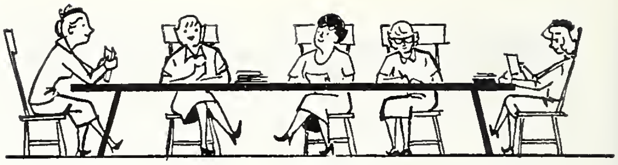
Woman's Auxiliary



As the summer wanes, the planning for fall activities increases and my engagement book tells of a full schedule. The girls are ready for school; Pam enters senior high school and Amelia leaves for college. Meanwhile, my husband will resume his football officiating for area high schools and I will be taking to the highways over the state. This month I visited Saline County. In September, I will visit Cape Girardeau, Perry, Cole, Lafayette-Ray, and then Jackson just before leaving for the National Fall Conference at the Drake Hotel in Chicago, October 6 to 9. The National Conference is the meeting we wish every auxiliary member could attend as the speakers and discussion periods are excellent and such an inspiration. This year, it will all be based on our theme—"Serve And Communicate"—and the ideas from these sessions will be invaluable to Auxiliary members everywhere.

Mrs. L. S. Crispell

Missouri members will be hearing the results of this Conference at our own Fall Conference in Joplin on October 23 and 24 when Betty Sutter, Ruth Kelling, Esther Bauman, Bitsy Calkins and I make our reports. Dr. William Jackson Wilson, minister of the First Community Church in Joplin and President of the Western Division of the Jasper County Mental Health Association, will speak on Mental Health and also the new AMA program in Medicine and Religion. On Thursday morning, our speaker will be Mrs. Aaron E. Margulis, AMA Field Representative to Women's Organizations. Mrs. Margulis has been an Auxiliary member and is well qualified to bring us suggestions on programming and public relations. Dr. Kenneth C. Hollweg, President of the Missouri State Medical Association and a member of our Advisory Council, will bring greetings at dinner on Wednesday evening. We are looking forward to this meeting and hope to have a large turnout. For the husbands who can join their wives on this trip, there will be the dinner and entertainment and the area offers golf, and fishing and boating not far away.

Our county presidents and their program chairmen have just received an excellent letter from Mildred Bohnsack, state Program Chairman, outlining material from National which should be helpful.

The hearings on the King-Anderson Bill—H.R. 3920—are not expected to come up in the House Ways and Means Committee until September as the Committee is still working on the Administration's tax reform proposals. The AMA "Legislative Roundup" says, "if the patterns of past hearings continue, the Administration will be the first to present testimony with proponents and opponents following in somewhat alternating order." Now is the time for concentrated effort—register your opposition to "Fedicare" and write your Congressman today!

Volume 60, Number 10—October, 1963

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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LOUIS BELINSON, M.D., *Jefferson City, and*
ARA L. MORRIS, R.N., *Higginsville*

The Public Health Nurse, the Family And the Retarded Child

The situation of the retarded child is discussed and a series of discussion groups of parents of retarded children is reported, together with the outcome of a questionnaire and the use of the public health nurse in homes where there is a retarded child.

Dr. Belinson is Deputy Director, Division of Mental Diseases, Department of Public Health and Welfare, Jefferson City; Clinical Assistant Professor of Psychiatry (part time), School of Medicine, University of Missouri, Columbia; Lecturer in Hospital Administration, School of Hospital Administration, Washington University, St. Louis; President, National Association of Coordinators of State Programs in Mental Retardation. Miss Morris is Nurse Administrator of the Higginsville State School and Hospital, Higginsville; Chairman, Psychiatric Nursing Conference Group, Missouri State Nurses Association; Chairman, West Central Division, MASW.

"God has scattered among us—rare as the possessors of genius—the idiot, the blind, the deaf-mute in order to bind the rich to the needy, the talented to the incapable, all men to each other, by a tie of indissoluble solidarity."[1] These were the words of Dr. Edouard Seguin, speaking at Syracuse, New York, in 1854. The occasion was the laying of the cornerstone for the first building in this country planned expressly for the education of the mentally retarded. The structure carried the name New York Asylum for Idiots, which term has all but disappeared from the literature at present.

In the President's Message to Congress on mental illness and mental retardation on February 5, 1963, Mr. Kennedy stated: "We must move from the outmoded use of distant custodial institutions to the concept of community centered agencies. . . ."

Such recognition and support was most enthusiastically received by those dedicated to this field. It provided renewed hope for countless efforts which have been initiated and carried through by individuals and groups in past years, and undoubtedly laid the groundwork for much that will be achieved in the future.

One such project is the basis for this report.

Workers in the field of mental retardation have constantly been reminded of the overcrowding and long waiting lists that exist in the state residential schools and hospitals. The construction of additional facilities turned out to be only of temporary expediency, really adding to the problems and providing no satisfactory solution. The recruiting of qualified professional staff as well as the non-professional employees needed turned out to be a more difficult problem than the acquisition of the buildings themselves through Legislative appropriation.

Mental retardation cannot be viewed as a specific problem involving an individual. It must be considered as a complex family situation in which the retarded child has disturbed the equilibrium.

Yannet,[2] discussing the question of when to institutionalize, states "actually, parents' fears that the retarded child's presence in the home will have an unhealthy effect on their normal children are generally unwarranted. The opposite is probably more often true, with the normal children developing unusual generosity and strength of character. If the parents' attitude toward the retarded child is sensible, such a child can contribute much to his family and be dearly loved, not only by his parents, but also by his normal brothers and sisters."

Giannini and Goodman[3] deplore such recommendations as, "Mr. and Mrs. A were told that the child should be placed immediately and that for their own sake they should tell everyone that the child had died. At a time when their judgment was seriously impaired, they followed this recommendation. They have continued to visit the child regularly. He is an alert, high functioning, appealing child whom they feel they have abandoned. They cannot find the strength to take him home and face their family and their own children, and are experiencing intense guilt."

Even in family situations which are considered critical and the admission of the child is deemed urgent, there is often a delay of months until a bed can be provided in the proper unit of the residential school. We are sure that if the possibility of admission was more favorable, the length of the waiting list would be two or three times the present size. It has been the practice for several years to screen the waiting list every six months in order to determine if the family still resides in Missouri or perhaps has made other plans which may permit the name to be taken off the list. In some instances the children were no longer alive.

"During the past several years there have been three trends which have altered the characteristics of the population of the state residential school."[4] One, the developing opportunities in special education and training centers have provided alternatives, which in many cases were probably preferable. Two, an increasing number of older patients have been released from the state schools into gainful employment, many in sheltered workshops. Three, the marked increase in the number of so-called custodial cases required a higher ratio of personnel to patient.

The question which stimulated this study was "What was happening to the family and to the patient while waiting for the admission arrangements to be completed?" Surely some adjustments are being made. What resources were being called upon? What was happening to the family integration?

The waiting list of the Marshall State School and Hospital totals 161 patients with 27 at this time evaluated as emergencies and placed on the urgent list. The St. Louis State School and Hospital with a capacity one half that of the Marshall Complex of institutions receives patients from the City of St. Louis and St. Louis County. The Marshall State School has on its waiting list applications from counties scattered throughout the State of Missouri.

Rather than resort to a questionnaire, it was decided to plan for a physical meeting of a group of parents. Jackson County was selected which included the City of Kansas City. There were 38 names on the waiting list in this area of denser population making the arrangements for meetings more practical. A letter was formulated inviting the parents residing in this area, the names of whose children were on the waiting list at Marshall, to participate in a series of meetings in Kansas City. Twelve families responded and a meeting was arranged in a hotel in downtown Kansas City.

In all, five such group meetings were held a month apart with, in most cases, both parents present at each session.

It was decided to convene at 7:30 p.m. and adjourn at 9:30 p.m., but rarely would the meeting break up until after 10.00 p.m. following which the moderator drove to his home, a four hour drive. The sessions were totally unstructured allowing the interaction to develop in line with the needs and wishes and anxieties of the parents.

The first meeting resulted in little free exchange of comments as well as questions. Most of the parents were quite tense. There was an air of uneasiness and some suspicion. The parents were impelled by both curiosity and need. Discussions quickly aborted. Two of the couples sat quite closely together while others were spread about the conference table apparently not needing that much support. The moderator presented an interpretation of the role of the residential facility provided by the state, and pointed out the difficulties due to overcrowding and the necessity for maintaining waiting lists.

Attendance held up well during the second meeting. Two facts became noticeable. Parents were considerably more at ease and became involved in discussions with frequent references to their own particular situation. As is so frequently the case, about one third of the group dominated the discussion, while another third would occasionally raise a question and the remainder of the group seemed to just want to be there and listen.

During this session there was the beginning of emphasis on areas that seemed to have more universal concern. There seemed to be general acceptance of the fact that each of them had a retarded child, yet frequently questions were raised which implied some lingering doubt that retardation existed. Baroff[5] points out that the acceptance of the reality of the handicap is the first and perhaps the most formidable obstacle for the parents. Later in his paper, he stated that out of 67 families seen at a retardation study clinic in Los Angeles, 42 per cent had come with at least a suspicion that their child was retarded. The majority, 58 per cent, not only did not acknowledge this possibility initially, but more than half of these rejected the diagnosis at the completion of the evaluations. It was as if this intense rejection on the part of the parents blurred the acceptance of information which they were seeking in the first place.

The next meeting was devoted to a demonstration and explanation of psychologic testing. A clinical psychologist was invited to not only explain the entire testing procedure but to involve several of the parents in the test situation, to dispel the aura of mystery and to remove as much as possible of the doubt.

The parents indicated their sincere appreciation for this arrangement and particularly did they relate this new understanding to the gnawing misconception that there must always be hereditary linkage.

The demonstration by the clinical psychologist brought up the question of communication. Since many of the children, particularly those below the educable group, presented some real problems in making themselves understood the question of speech and how to deal with such defects became the next area of concern. Some of the parents who felt they could understand the wants of their children in spite of the fact that speech was rather inarticulate, wondered how a psychologist, not acquainted with such a child, could presume to be accurate in his recording of responses.

For the next session it was decided that a speech therapist be brought to the meeting to contribute some information about his specialty to the parents and advise them of the services that a speech therapist can provide and the nature of speech problems as they are found among mentally retarded.

This did not materialize and the session was devoted to an explanation of the detailed operations of the state residential facility.

The best attendance occurred during the fifth session. Group interaction was excellent and comments revealed that the parents had given considerable thought to many facets of the problem. A certain amount of objectivity seemed to be developing.

Quite dramatically the mother and father of a retarded child described in considerable detail the effect on their home life. Since one of them had to remain at home at all times, it was a rare situation that permitted both of them to be present. A neighbor boy living a few blocks away had offered to do "babysitting" for them and this made it possible. At 10 years of age their boy had no bladder or bowel control.

Another parent placed before the group her problem involving her retarded child placing a pointed knife at the throat of his younger sister. She was inclined to blame television and the subsequent discussion indicated that other parents shared the acceptance of the idea that this media of information could have a deleterious influence. It was possible to demonstrate that this was learned behavior and more than likely this particular gesture had been demonstrated more than one time. With the repetition required to teach elementary skills, one would hardly suppose that this moderately retarded child could become involved in such complex behavior by simply observing the television screen. The mother, in this case, stated that she felt that her retarded child's actions were too menacing to the younger child and that this had motivated the suggestion to remove the youngster to a state residential facility. Further discussion revealed the fact that there was no basis upon which to assume that the behavior actually was homicidal in intent. This interpretation was being added by everyone else.

As the session neared its conclusion, several of the parents began to voice the need for some help in the care of their child within their own home, going on even to state they would not have been so anxious to make application and have the name on the waiting list. A bit more knowledge, some help and support might be all that is needed to retain the child in the home and still not disrupt its stability.

Having available the application forms and reports for this group of youngsters on the waiting list, it became obvious that the data were exceedingly meager. Were we in a position to fully understand the deprivation of the child, his needs and the family resources, we might be of immeasurable help to the families while awaiting a vacant bed for the admission of the child. The need for medical and nursing help in their own homes seemed to be most urgent and the decision was made to explore the possibility of our public health nurses arranging to visit the homes, to evaluate the resources and to provide what nursing care could be made available.

This then became the next phase, and since it was now midsummer with vacations being scheduled, the group voted to discontinue meetings for the time being.

It was of significance that at no time during the months that the group had its sessions, was there ever a request made that preferential consideration should be given to expedite the admission of any one of the children to the state residential school. The majority wanted some help and guidance so they could do what was necessary for their retarded child themselves.

The second phase then of his study involved the public health nurse, both in Jackson County and in the City of Kansas City. With the help and cooperation of the Division of Health, Maternal and Child Health Section, as well as the Division Supervisor, a meeting was arranged in Independence. The Supervisors of Public Health Nurses of both Jackson County and the City of Kansas City were present together with several members of their staff. One of the Jackson County Public Health Nurses, having previously carried out a home study, gave her report to the group. This illustrated the type of approach, the information obtained and the acceptance of this type of service by the family.

Following this meeting the names of all children, their parents and home addresses, on the waiting list at the Marshall State School, Marshall, Missouri, who resided in both Jackson County and Kansas City were made available to the public health nurses. During the next several months the home visits were made and complete and careful reports submitted. There was genuine enthusiasm expressed by the Public Health Nurses and in every case sincere gratitude was the reaction of the families.

Holtgrewe,[6] in her handbook, states "the Public Health Nurse who has developed an effective 'index suspicion' as she attends her daily activities becomes a significant person in terms of prevention of mental retardation through her prompt referral for medical care and through her guidance of the pregnant mother. Furthermore, it is especially important to refer suspected antipartals for medical supervision who have had histories of difficulties during previous pregnancies or during parturition."

The public health nurses were initially requested to turn in their findings in a narrative form covering specified areas. From this a questionnaire was developed and used through the completion of the home visits. An analysis of the data that were compiled by the public health nurses is not only interesting, but highly informative. The only common factor in the 33 reports which were submitted, aside from the fact that all resided in Jackson County, was the fact that each family had a child on the waiting list at the Marshall State School. Significantly then, each family had taken the step to place the child in a state residential setting. Since admissions are limited between the ages of 5 and 20, it is not unexpected to find that the average age of the 33 children was 9½. Twenty-two were male and 11 were female.

Farber,[7] studying the effect on family integration, points out that the marital integration of parents with a retarded boy in an institution was generally higher than the marital integration of parents with a retarded boy at home, relative to the results pertaining to parents of retarded girls. The findings indicate that on the average, the presence of a retarded boy has a severe effect on his parents' marriage.

SURVEY QUESTIONNAIRE

Number . . . .

(1) Name of Child . . . (2) Age . . . (3) Birthdate . . (4) Sex . . . (5) Order of Birth . . . . (6) Total Number of Siblings With Dates of Birth . . . . (7) Age of Mother at Birth of Child . . . . (8) Age of Father . . . . *Significant Observations:* (9) Prenatal . . (10) Natal . . . . (11) Postnatal (first year of life) . . . . (12) When Was Retardation Diagnosed? . . . . (13) Circumstances . . . . *Effect on Family Integration:* (14) Negative (destructive) . . . . (15) Neutral . . . (16) Positive (cohesive) . . . . (17) Professional Guidance From Whom? . . . . (18) Postnatal Care . . (19) Resources Available (stated or known to you) . . . (20) Resources Utilized . . . . (21) On Waiting List (date) . . . . (22) Agency or Individual Assisting . . . (23) Data About Home (rent, own, value, number of rooms) . . . . (24) Employment Pattern . . . . (25) Reaction to Visit of Public Health Nurse . . . . (26) Addendum (your judgment as to data items worthy of mention not listed above) . . . . .

RECAPITULATION OF PERTINENT INFORMATION REVEALED BY SURVEY QUESTIONNAIRE

Average age of 33 children on waiting list (years)	9½
Sex	
Male	22
Female	11
Order of birth of retarded child	
First	17
Second	6
Third	5
Fourth	2
Fifth	1
Total number of children	110
Families in which additional children were born after the retarded	14
Average age of mothers (years)	24.4
Average age of fathers (years)	28.7
Reported normal during prenatal period	26
Number reporting abnormalities at birth	12
Postnatal symptoms noted (during first year)	25
Seizures observed	8 (25 per cent)
Presence of retarded child causing adverse effect on family	13
Number indicating positive reaction to family integration	5
Number of families utilizing community resources (one out of four)	8

Of the 33 children, 17 were the first born. In 14 families, there were additional children born after the birth of the retarded child had occurred, and the entire group of 33 families totaled 110 children. What is both interesting and significant is the fact that the five families indicated that the presence of the retarded child in the home was a positive factor improving the family integration. In one report it was revealed that out of sheer necessity the father left his old job and obtained a new one which paid him more money. It also brought time into a different level of work and today he is a craftsman rather than a laborer.

SUMMARY

Out of 38 families, the names of whose retarded children were on the waiting list of the Marshall State School, 12 responded to an invitation to participate in a series of discussion sessions.

Aside from deeply satisfying interaction which took place, there were two significant requests made. One pertained to the reassurance that the diagnosis of mental retardation was correct and to this end psychologic testing was explained and demonstrated. The other question involved the actual care in the home. Several parents stated that with some guidance, support and help they would prefer to keep their children at home and take care of their needs themselves.

This led to the project involving the services of public health nurses.

The families visited and included in the survey questionnaire could be considered typical of the present day waiting list. Having the name of the child on the list was the only common factor. A tabulation of the pertinent findings constitutes a factual basis for program planning.

1. Many parents want to keep their child at home and provide him with the warmth, love and care needed.
2. There were consistent requests for help and guidance to accomplish this.
3. Of the 38 families contacted, 25 per cent responded and participated in the workshop sessions.
4. The opportunity for the parents to meet and exchange experiences was most mutually rewarding.
5. The misgivings on the part of parents with respect to the diagnosis can be lessened considerably by demonstrating the technic of administering psychologic tests.
6. Only eight families, or less than 25 per cent, actually utilized local resources to assist in planning.
7. The enthusiasm and sincerity of the group of public health nurses adds another dimension of service.
8. The acceptance by the parents of the service offered by public health nurses was universally fine.
9. Not only was moral support provided, but actual help given in nursing and feeding problems.
10. After evaluating the home situation, the public health nurses were able to locate resources in the community which could meet many of the needs.
11. The survey questionnaires were carefully completed, providing useful evaluations.
12. The data provided the state school made it possible to identify emergency situations for which no resources seemed adequate, and justified early admission arrangements.

The success of this workshop with parents of retarded children has demonstrated its worth and the project will shortly be initiated again.

The public health nurse seems to be in a most strategic position in the community not only to assist families in which there is a retarded child, but also to make known possible resources and to provide the state residential facility with critically needed evaluations identifying real emergencies. It would appear that the demonstration in Jackson County and Kansas City might justify enlisting the public health nurses throughout the State of Missouri in the cause of the retarded child and his family. Having knowledge of all community resources, referrals might well come to the nurse from the practicing physicians in her district. Holtgrewe[6] concludes her monograph with the following: "the public health nurse will be prominently instrumental in a continuing program of guiding the parents in home training that will have long-lasting effects of immeasurable value to the child, the family and the community. Her achievements will reflect her philosophy of service—guiding each individual to his optimum of health and welfare."

In keeping with the President's concept of community centered agencies, the practicing physician assisted by the public health nurse may be the very resource making possible development of future diagnostic care, treatment and training programs in the communities, rather than separating the child from the family and arranging for the admission to an overcrowded state facility usually many miles away from home.

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CONFERENCE ON THE MEDICAL ASPECTS OF SPORTS

The Fifth National Conference on the Medical Aspects of Sports sponsored by the American Medical Association, under the auspices of the AMA Committee on the Medical Aspects of Sports, will be held in Portland, Oregon, at the Benson Hotel on December 1, 1963. The Conference will be held in conjunction with the Clinical Meeting of the American Medical Association, December 1-4, 1963.

As was true of the previous conferences on this subject held in Los Angeles, Denver, Washington, D. C., and Dallas, the Fifth Conference will cover a wide range of subjects. Included will be papers, panels and discussions relating to training and conditioning, prevention and treatment of injuries, physiology of sports participation and other subjects.

Those interested in receiving announcements concerning the Conference should address the Secretary, Committee on the Medical Aspects of Sports, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

JOHN W. POLK, M.D., *Mount Vernon*

Bronchography: A Clinical Appraisal

BRONCHOGRAPHY is defined as the roentgen ray examination of the bronchial tree after the injection of some type of contrast medium. As such, it is a valuable aid in the diagnosis of certain bronchopulmonary diseases.

In 1918, Chevalier Jackson obtained the first bronchograms after instillation of bismuth powder into the trachea and bronchi. This was instilled through a bronchoscope. Sicard and Forestier introduced Lipiodol in 1922 and since that time bronchography has been as it is understood today.

Experiences with bronchography during the last 10 years at the Missouri State Sanatorium, Mount Vernon, and in private practice, are presented together with case histories.

Dr. Polk is Chief of the Surgical Service, Missouri State Sanatorium, Mount Vernon, and also practices in Springfield.

Various technics for the introduction of Lipiodol into the bronchi have appeared since that time. The transcutaneous method of injection through the cricothyroid membrane was introduced by the French and is still used in many areas today. Others advocate the use of rubber catheters which are introduced into the trachea after proper induction of anesthesia. Still others suggest fluoroscopic guidance while performing "grams."

In 1933, mucosography was described by Pedro L. Farinas. This consists of using intratracheal atomization of small quantities of 20 per cent Lipiodol. In 1944, Henry Metras developed rubber catheters with opaque tips which he felt he could introduce into the various parts of the bronchial tree. In 1946, Richtie published a report of Brock's technic. This consisted of injection of Lipiodol through the nose without any apparatus other than a 20 cc. syringe. Various technics and instruments have been described since that time, but the basic result should determine what technic is used. These would naturally vary in the hands of different individuals.

TECHNIC

For the past 10 years xylocaine, 1 or 2 per cent, has been used as the local anesthetic. This technic consists of spraying the oral pharynx and applying pledgets of cotton dipped in anesthetic into each arytenoid fossa. Then the patient inhales xylocaine, placing this either through the nose or dripping it into the oral pharynx with the body tilted either to the right or left. Enough of the anesthetic is utilized until the cough reflex has been abolished. This usually consists of approximately 3 to 4 cc. of anesthetic being instilled into each bronchial system.

After the cough reflex has been abolished, the contrast media is simply injected through the nose or dripped into the oral pharynx with a 20 cc. syringe. Again the patient is tilted to either side or positioned so that the desired filling can be obtained. This procedure has been found to be simple and effective. It takes approximately 15 to 20 minutes to complete the procedure.

As to contrast media, Lipiodol is no longer used since it is not absorbed in the lungs. Oily Dionosil has been used almost exclusively. This product is distributed by the Glaxo Laboratories. In addition, they also distribute aqueous Dionosil. The oily Dionosil has been found less irritating than the aqueous solution to the bronchial mucosa. We have not had the alveolar filling which has been described with this product. I well understand that other types of media are available but I have not had adequate experience with these to comment on them.

INDICATIONS AND CONTRAINDICATIONS FOR BRONCHOGRAPHY

Indications for bronchography arise in the diagnosis of many bronchopulmonary diseases. Dilatations, strictures, congenital anomalies and occlusions of the bronchi can easily be demonstrated by this procedure. Bronchial compression or displacement, as from extrabronchial tumors, can also be beautifully demonstrated. Lastly, if surgery for bronchiectasis is to be done, the bronchogram is a road map of this procedure. The procedure is used most frequently for bronchiectasis, although benign strictures of tuberculosis, complete bronchial stenosis or bronchogenic carcinomas are frequently demonstrated by this procedure. Excellent success has been had with this procedure in cases with persistent bronchopleural fistula, outlining the fistula just prior to surgical attack. On selective occasions, bronchograms are of value in demonstrating obstruction from foreign bodies. This is especially true if the foreign body is in a segmental bronchus and an open bronchotomy is planned.

Bronchography is not a routine procedure but with adequate preoperative medication and the technic described, it has not been found to be a complicated procedure. Who does the bronchography is of no significance. The procedure may be done by the radiologist, the ear-nose-throat physician, or any other qualified physician. My only bit of advice would be to recommend that the physician familiarize himself with the patient and with his bronchopulmonary disease in order that adequate bronchial films may be obtained.

There are a few contraindications to bronchography. They are:

1. Generalized poor condition. I have not felt justified in performing this procedure on patients who would not benefit from surgery or further medical treatment following it.
2. Tuberculosis in the acute phase.
3. Acute pulmonary disease such as penumonia or abscess which is not stable.
4. Allergy to iodine.
5. Cases in which the pulmonary function is so decreased that instillation of the oil would be dangerous.
6. Active hemoptysis.
7. Chronic liver or kidney disease.

CASE REPORTS

Case 1. This 53 year old, white female was admitted to the Missouri State Sanatorium on Dec. 6, 1962. She gave a history of having coughed up approximately two ounces of blood around Dec. 1. She had previously had hemoptysis four years prior to this. She also complained of cough and semipurulent sputum. She also stated that she had frequent upper respiratory infections.

The family history was significant in the fact that her husband had previously had pulmonary tuberculosis and pulmonary surgery at this institution several years ago.

The past history was noncontributory.

Physical examination was essentially normal except for moist rales which were persistent anteriorly on the right.

Course in Hospital.—Routine laboratory studies were within normal limits including numerous sputum examinations and cultures for acid-fast organisms and fungi. Bronchoscopy was performed on Dec. 28, 1962. Inflammation around the right middle lobe bronchus was present. Bronchograms were done on Feb. 8, 1963. These revealed extensive bronchiectasis in the right middle lobe and anterior segment of the right upper lobe. A right middle lobectomy and segmental resection of the anterior segment of the upper lobe was done on Feb. 25, 1963. Patient tolerated this procedure well and was discharged from the hospital on March 19, 1963.

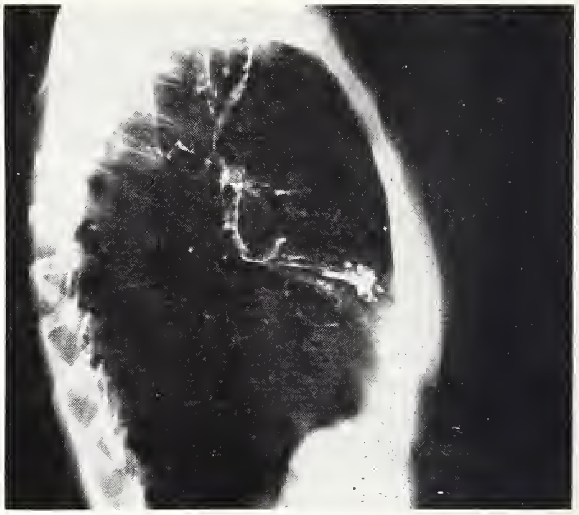

Fig. 1. Case 1. Bronchiectasis, right middle lobe and anterior segment of right upper lobe.

Pathology report: Lung, right middle lobe and anterior segment of right upper lobe—(1) bronchiectasis; (2) histoplasmosis in hilar nodes.

Comment.—This case is presented to demonstrate routine bronchiectasis. It also demonstrates that further detailed information is gained on the right lateral film of the chest than on the routine PA bronchogram. If lateral films are not made at the time of bronchography, then I would strongly urge that oblique films be made.

Case 2. This 24 year old, white female was seen on Oct. 8, 1962 complaining of recurrent hemoptysis. She stated that in May, 1962, she coughed up one half cup of blood. She was seen by her local physician and x-rays of the chest were considered normal. On Aug. 6, 1962, she had further hemoptysis. She was placed in Burge Hospital where bronchoscopy and bronchograms were done. The bleeding site was not identified. On Oct. 6, 1962, she had recurrence of hemoptysis, coughing up a cupful of blood. We saw her at her own request at that time. We reviewed the previous bronchograms that she had had and noted there was no filling of the right upper lobe bronchi.

The past history on this patient is significant in the fact that she had been in the Missouri State Sanatorium from Aug. 9, 1956 to June 1, 1957. She had had positive sputum. Therapy consisted of INH and PAS taken for two years. Both her parents had died of pulmonary tuberculosis in the Sanatorium.

On Oct. 16, 1963 bronchoscopy was repeated but was of no benefit. Bronchograms were then done with the patient lying on the right side. Complete filling of the right upper lobe was found. She was found to have cystic bronchiectasis in the area of her old healed tuberculosis. On Jan. 22, 1963 an apical segmental resection of the right upper lobe was performed. Since that time, the patient has done well. She has returned to work and has had no further hemoptysis.

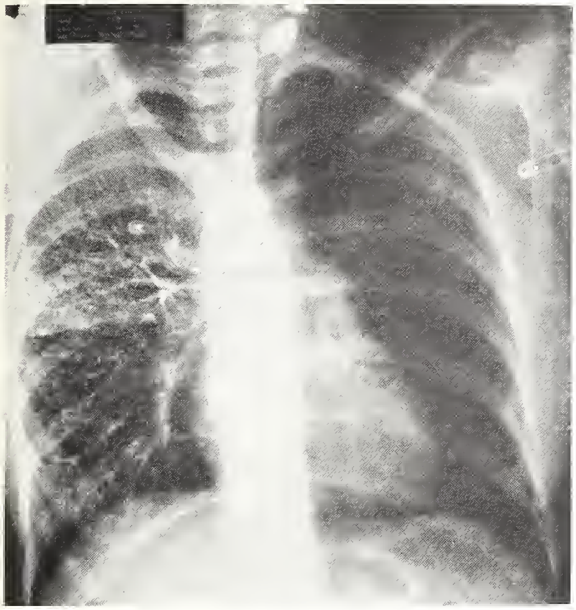

Figure 2. Case 2. Cystic bronchiectasis, apical segment, RUL.

Comment.—I feel that the most important consideration given to this case is revealed by the fact that the patient had been in the Missouri State Sanatorium with tuberculosis in 1956 and 1957. After we obtained this history and saw that no filling of the upper lobe on the right had been obtained, then our position for completing the bronchogram was simplified.

Case 3. This 43 year old, white male was seen on Feb. 12, 1958 because of recurrent pneumonia. He had been in St. John's Hospital in August, 1957, and on Feb. 1, 1958, with pneumonia in the right lower lobe area. On Feb. 13, 1958, bronchoscopy was done and 80 per cent stenosis was found in the right intermediate bronchus. Bronchograms were done confirming this stenosis and revealing extensive bronchiectasis in the right middle and lower lobes.

The past history is significant in the fact that the patient was in the Missouri State Sanatorium for one year at the age of 12. A diagnosis of tuberculosis was made at that time. He dates the onset of his cough and productive, yellow sputum to that time.

On Feb. 22, 1958, right middle and lower lobectomies were done. Since that time, the patient has had no cough or pneumonia and works daily.

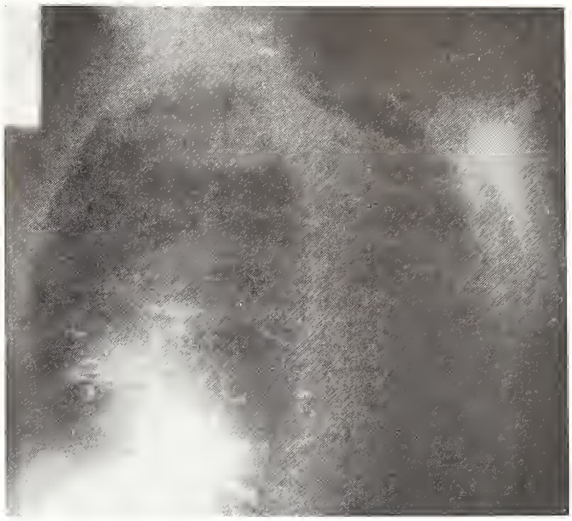

Fig. 3. Case 3. Stenosis, right intermedius bronchus and bronchiectasis, RML and RLL.

Pathological diagnosis was bronchiectasis, extensive, right middle and lower lobes with stenosis of the right intermediate bronchus.

Comment.—This case again illustrates the importance of the past history. The patient dates symptoms exclusively to the age of 12 when he was in the Sanatorium The bronchoscopy revealed the bronchial stenosis. The bronchograms showed the extensive saccular bronchiectasis distal to the stenosis.

Case 4. This 59 year old, white female was admitted to the Missouri State Sanatorium for the first time on Feb. 17, 1961. She stated that she had been told in 1925 that she had bronchiectasis. At that time she had told the physicians that when

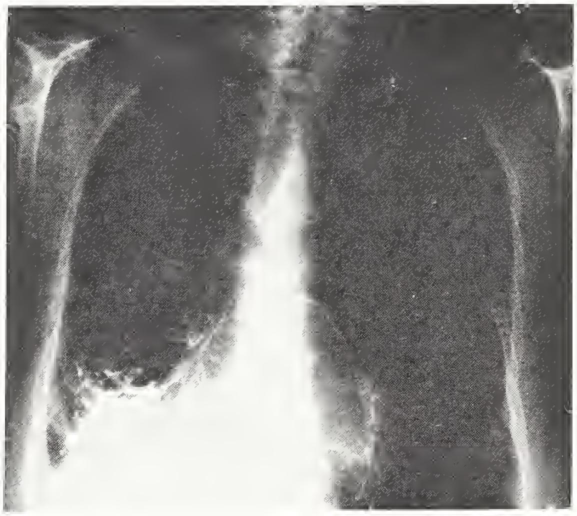

Fig. 4. Case 4. Extensive bronchiectasis, right middle lobe and right lower lobe.

she was 6 years old she was sucking on a snowball and aspirated a foreign body which she felt was a small piece of wood. She denies ever having coughed up this foreign body. From that time to the present, she had suffered from recurrent blood-streaked sputum, productive cough and three episodes of pneumonia. She had had bronchograms in 1957 and right middle and lower lobectomy was recommended, but she refused. She was admitted to the Missouri State Sanatorium for this procedure.

Physical examination was noncontributory except that there were numerous rales over the lower right chest. Pulmonary function studies showed a mild restrictive ventilatory impairment.

On March 22, 1961, right middle and lower lobectomies were performed. The patient tolerated this procedure well and later a cholecystectomy was done on May 12, 1961. She was discharged on June 29, 1961 asymptomatic. She has done well to the present time.

At the time the surgical specimen was examined by the pathologist, a stick of wood measuring 3 cm. in length and 3 mm. across was noted at the bifurcation of the segmental bronchi of the right lower lobe.

Pathological diagnosis was chronic bronchiectasis and chronic fibrous pneumonitis secondary to aspirated foreign body (sliver of wood).

Comment.—This case is presented to show the extensive bronchiectasis and the destruction of lung tissue that can occur from a foreign body of long standing. It is my opinion that the reason the foreign body is not demonstrated on the bronchograms is because of the fact that there had been such marked dilatation of the bronchi with distortion and displacement.

No bronchoscopy had been done on this patient prior to surgical resection. We strongly recommend that our patients who now have surgical bronchiectasis should have routine bronchoscopy prior to bronchograms.

At the present day, removal of this type of foreign body by bronchoscopy would prevent such extensive bronchiectasis and avert many years of suffering that this patient displayed prior to her pulmonary surgery.

Case 5. This 33 year old, white female was seen on Feb. 5, 1960. She stated that since the age of 10 she had been chronically ill with cough, purulent sputum and recurrent bouts of pneumonitis. In December, 1959, she developed fever and acute symptoms and x-ray by her local physician revealed pneumonitis in the right lower lung area. Sputum studies were negative for acid-fast bacilli. She was admitted to St. John's Hospital on Feb. 10, 1960. Bronchoscopy revealed complete stenosis of the right middle bronchus. Bronchograms were performed confirming this. The patient was transferred to the Missouri State Sanatorium and on March 1, 1960, right lower and middle lobectomies were done. She has done well since surgery.

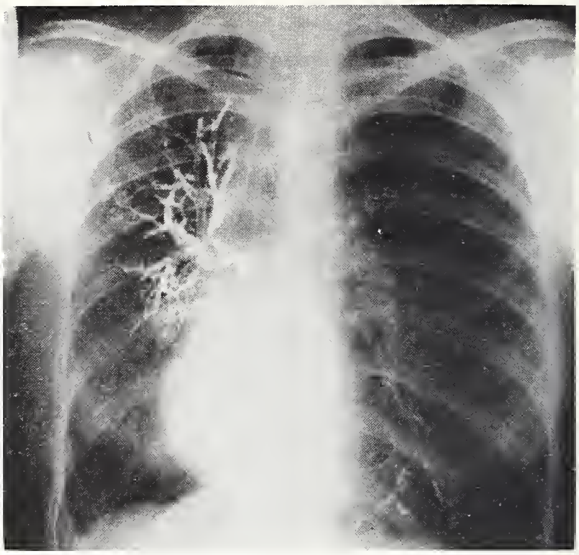

Fig. 5. Case 5. Complete stenosis, right intermedius bronchus.

Pathological diagnosis: (1) Early in situ bronchogenic carcinoma, epidermoid type; (2) chronic granulomatous bronchiectasis; (3) chronic granulomatous lymphadenitis; (4) osseous metaplasia, cartilagenous rings.

She has done well until the present with no recurrence of her disease.

Comment.—This case demonstrates an early bronchogenic carcinoma occurring in an area of inflammation and destruction. Again, the length of her symptoms strongly suggest bronchiectasis.

Case 6. This 58 year old, white male was first seen on Nov. 21, 1958 complaining of hemoptysis. He previously had hemoptysis in 1952. Bronchoscopy had been done at the Mayo Clinic at this time. He was told he had bronchitis and to stop smoking. This he did. On Nov. 22, 1958, following an episode of hemoptysis, bronchoscopy was done and bronchial washings were reported positive for carcinoma cells. These cells had been taken from the right lower lobe bronchus. A bronchogram was then done on Nov. 26, 1958 and an obstruction in the medial basal segmental bronchus was observed. On Dec. 5, 1958, a repeat bronchoscopy was done and additional biopsies taken from this lower lobe segmental bronchus. These biopsies were positive for bronchogenic carcinoma. A right lower lobectomy was done on Dec. 12, 1958.

The patient did extremely well until the spring of 1962 when he developed a lesion in the lingula of the left upper lobe. On May 8, 1962, subsegmental resection of the lingula was performed and a second bronchogenic carcinoma was found.

The cell type of the first carcinoma was alveolar cell, as was the second type. Whether this repre-

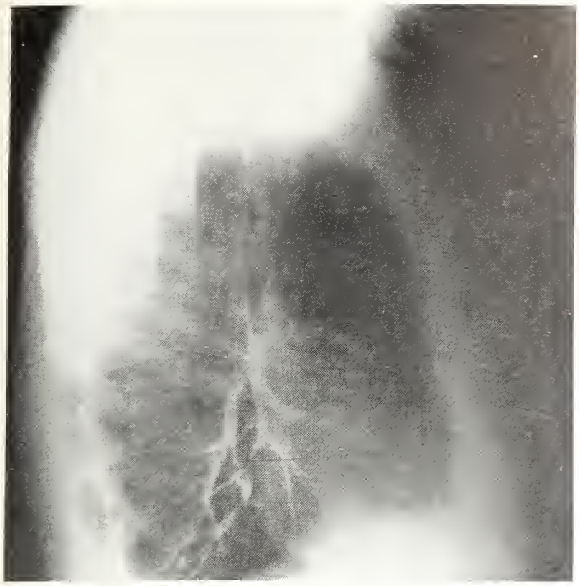

Fig. 6. Case 6. Obstruction of medial basal segmental bronchus, right.

sents a metastasis or second primary we are unable to determine. Many authorities feel this would represent a new site—multicentric foci.

The patient has done well for the last year but a recent x-ray reveals recurrence of disease in the right middle lobe.

Comment.—These bronchograms reveal destruction in a relatively small bronchus and are a definite aid in the diagnosis of such similar lesions.

Case 7. This 46 year old, white male had had three previous admissions to the Missouri State Sanatorium. His last admission was Feb. 12, 1962 and he expired Feb. 13, 1962. He had previously been diagnosed as having pulmonary tuberculosis, far advanced, active, in February 1959. He had been treated with INH. There was no conversion of sputum until March 23, 1960 when an apical posterior segmental resection of the left upper lobe was done. His course was complicated by bronchopleural fistula. On April 29, 1960, postresection thoracoplasty was done. The patient continued to have a positive sputum following this. Bronchograms were done on July 12, 1960. These revealed the bronchopleural fistula to be lying beneath the left scapula. The oil not only demonstrated the fistula but a large subscapula cavity. Completion of the lobectomy was done July 25, 1960. Following this, the patient continued to improve clinically. On Feb. 8, 1961, a right extraperiosteal plombage was performed. He was then discharged Oct. 3, 1961 with instructions to continue INH and PAS.

The patient did extremely well for the next five months. Around February 1, 1962, he developed swelling in the posterior aspect of the right chest. He was admitted as an emergency case on Feb. 12, 1962 and it was noted that he had a definite, tense, fluctuant swelling along the right scapula border. It was felt that this represented a secondary infection into the extraperiosteal plombage area. It was planned to take the patient to the operating room the next day to remove the extraperiosteal plombage but he expired suddenly on Feb. 13, 1962 at 5:00 a.m. An autopsy was performed with the pathologic diagnosis being bilateral, massive, thrombo-emboli of both lungs and extensive pulmonary emphysema.

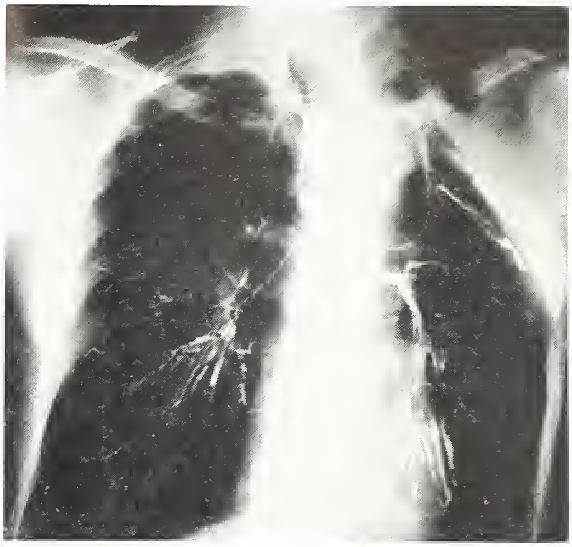

Fig. 7. Case 7. Subscapular space and BPF outlined, left upper lung field.

Comment.—Bronchograms on this patient were utilized to demonstrate the bronchopleural fistula and any communication which the fistula might have. In this particular case there was a subscapular abscess on the left.

SUMMARY

Some experiences with bronchography during the last 10 years have been outlined. This includes technic, type of anesthetic, and indications and contraindications that have been used in selecting these patients. We do not claim our technic as original in that it utilizes many of the principles described by Brock. Selective case histories are presented with bronchograms illustrating the pathology which we wish to demonstrate. In our experience it has been a valuable aid in the diagnosis and treatment of certain bronchopulmonary diseases.

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(Continued on page 936)

G. L. WATKINS, M.D., ***Farmington***

Ileocolic Intussusceptions Caused by Mucoceles of the Appendix

Two cases of ileocolic intussusception caused by mucocele of the appendix are reported, together with a review of the pathogenesis and symptomatology and management of this type of obstruction.

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MUCOCELES of the appendix are uncommon. A recent study of 50,000 vermiform appendices included only 112 mucoceles, an incidence of 0.22 per cent.[1] They may produce symptoms suggestive of appendicitis or may be discovered incidentally at laparotomy for other surgical diseases. An appendiceal mucocele that causes an ileocolic intussusception is quite rare, and only isolated accounts and summaries have appeared in the literature since the first report in 1919.[2-8] By January 1962, Welch and Hellwig were able to collect 22 cases and added one of their own.[9]

Recent experience in the management of two such cases is recorded.

Case 1. A 51 year old housewife was admitted to the Bonne Terre Hospital at Bonne Terre, Missouri, June 3, 1956. Two days previously she had developed periumbilical pain which the next day had moved to her right lower abdomen. On examination there was tenderness, muscle guard and rebound tenderness in the right lower quadrant. Pelvic and rectal examination were normal. White blood count was 9,400 with 62 per cent polymorphonuclear cells. A diagnosis of appendicitis was made. At operation the ileum had telescoped into the cecum and the appendix could not be immediately identified. The right colon was mobilized and the distal end of the intussusceptum could be palpated in the right transverse colon. This was readily reduced by a gentle milking action and the cause of the intussusception proved to be a large, pale, distended appendix measuring 12.0 cm. by 3.5 cm. This was excised along with a portion of the adjacent cecal wall. The patient was discharged on the eighth postoperative day.

Pathological examination revealed a mucocele filled with typical gelatinous mucoid type material. The lumen at the base appeared to be obstructed by fibrosis.

Case 2. A 65 year old woman was admitted to the Madison Memorial Hospital at Fredericktown, Missouri, January 18, 1963, with a three day history of intermittent cramping abdominal pain associated with nausea and vomiting. For two days she had had no bowel movement and had passed no flatus. During the last two years she had experienced three similar but milder episodes from which she recovered spontaneously within 48 hours.

Examination revealed a pale, somewhat dehydrated 65 year old woman complaining of abdominal pain. The abdomen was moderately distended and diffusely tender. No definite masses were felt and no external herniae noted. Pelvic and rectal examination were normal.

Laboratory studies including serum electrolytes were all within normal limits. Chest film was normal. X-ray examination of the abdomen was consistent with small bowel obstruction with the suggestion of a right mid-abdominal mass (fig. 1).

A diagnosis of small bowel obstruction was made and operation was performed. With the patient anesthetized a smooth, rubbery, mobile, elongated mass could be felt in the right-mid-abdomen. Upon entering the peritoneal cavity several dilated loops of distal small bowel were encountered containing mostly air with only a moderate amount of fluid. The distal ileum had telescoped into the ascending colon forming a mass which extended into the proximal right colon. The appendix, as part of the intussusceptum, could not be identified. The regional mesenteric lymph nodes appeared grossly normal and abdominal exploration otherwise was also normal. No attempt was made to reduce the intussusception. The right colon was mobilized, a right colectomy was performed and bowel continuity established by an end to end ileocolic anastomosis. The patient was discharged on the ninth postoperative day.

The intussusception could not be reduced on the dissecting board without first opening the intussuscipiens longitudinally with a scissors. The large, pale, distended appendix measuring 9.0 cm. by 4.0 cm. was rather striking (fig. 2). The lumen was filled with a grayish mucinous material. The lumen at the base was obliterated. On microscopic section

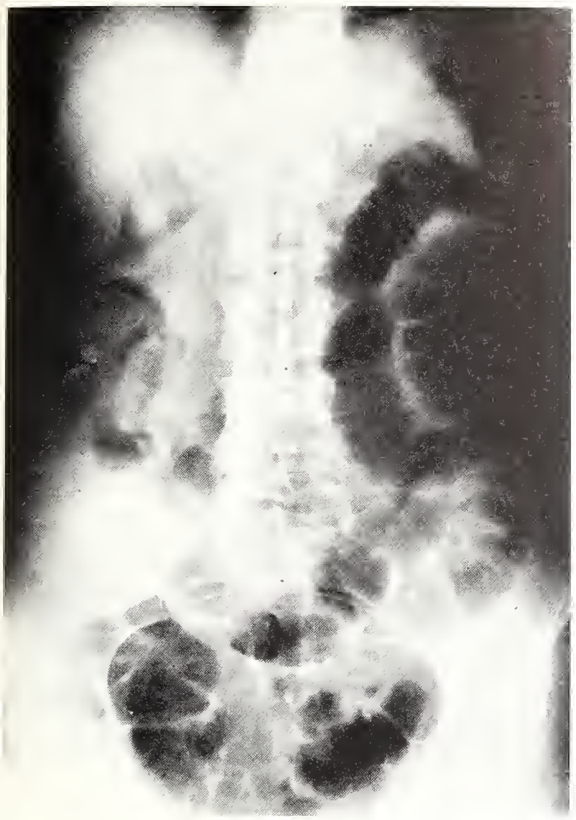

Fig. 1 (Case 2). Dilated loops of bowel with the suggestion of a right lower quadrant mass.

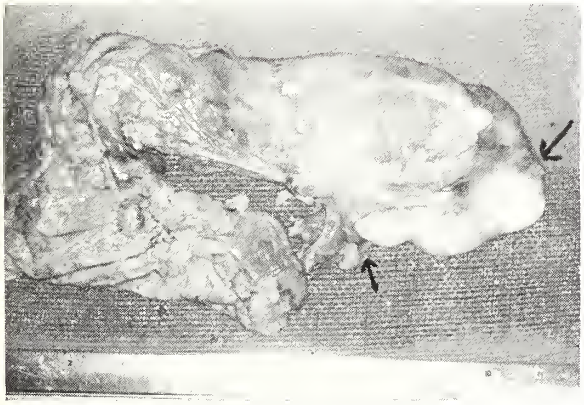

Fig. 2 (Case 2). Gross appearance of appendiceal mucocele after reduction of the intussusception.

the epithelial cells were distended with mucus. The basement membrane was intact and no degenerative changes were seen (fig. 3).

DISCUSSION

Mucoceles are produced when mucin accumulates within the lumen of the appendix, usually the result of postinflammatory or involutional changes.[5] They occur more commonly in females and almost all the recorded cases of intussuscepted mucoceles have been in adult females.

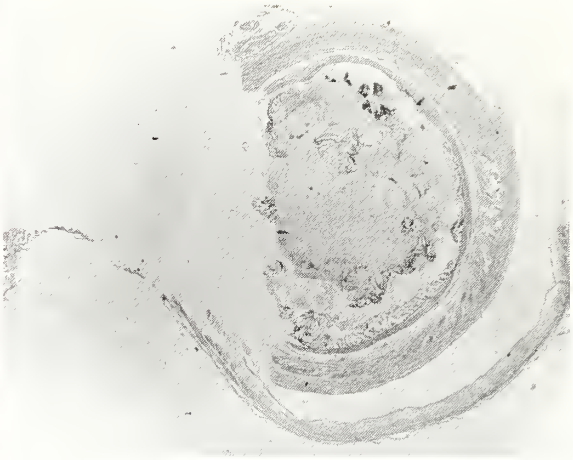

Fig. 3 (Case 2). The appendix is distended and its lumen filled with typical mucinous material.

Symptoms may early simulate acute appendicitis as in case 1, progressing to a picture of intestinal obstruction seen in case 2. If obstruction is incomplete symptoms may be those of intermittent abdominal pain often associated with a gradually enlarging abdominal mass. It is unlikely that the correct diagnosis will be suspected preoperatively.

It has been shown that the majority of colocolic intussusceptions are the result of colon cancer and should be treated by primary resection rather than attempting a mauling, manipulative reduction in the hope of finding a benign lesion.[10, 11, 12] Ileocolic intussusceptions are less likely to be caused by carcinoma but the incidence is still high. Donhauser's recently collected series included 177 ileocecal and ileocolic intussusceptions, 25 of which were caused by cancer of the cecum and one by cancer of the appendix.[13] Roper[11] reported five cases of ileocolic intussusceptions in adults, only one of which resulted from benign disease. Indeed, 10 mucoceles have been reported in which the obstructive lesion was either a carcinoma or carcinoid.[14]

Thus, in spite of the ease with which reduction may be accomplished, a primary resection of the right half of the colon without preliminary attempt at reduction would seem to be the proper treatment for an ileocolic intussusception. This can be done safely and without significant increase in morbidity even in the presence of obstruction. In fact, a somewhat distended distal ileum can actually facilitate the construction of an end to end anastomosis.

Summary

1. Two cases of ileocolic intussusception caused by a mucocele of the appendix have been reported.

2. The pathogenesis and symptomatology have been reviewed.

3. The management of this type of obstruction has been discussed with emphasis on primary resection of the right colon as the proper definitive treatment.

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(Continued from page 933)

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OPERATION BARNSTORMER

"Operation Barnstormer," an excellent film prepared by the American Medical Political Action Committee, has been shown in Missouri during September. The Jackson County Medical Society, the Missouri Medical Political Action Committee and the Kansas City Medical Committee for Good Government sponsored a meeting in Kansas City on September 24.

The Greene County Medical Society and the Missouri Medical Political Action Committee sponsored a meeting in Springfield on September 30.

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Research in the Service of Medicine

P. C. ANDERSON, M.D., ***Columbia, and***
D. H. HULDIN, M.D., ***Ann Arbor, Mich.***

Single Primary Basal Cell Epithelioma Of the Leg

An illustrative case is presented and it is pointed out that the single stasis dermatitis-like superficial eccentric and primary basal cell carcinoma be considered a distinct entity.

Dr. Anderson is from the Department of Dermatology of the University of Missouri School of Medicine, and Dr. Huldin is from the Department of Dermatology of the University of Michigan School of Medicine.

THE MOST familiar variety of basal cell carcinoma arises from apparently normal skin on the mid-third of the face of middle-aged or elderly persons. Because this common neoplasm is readily recognizable and slow to enlarge, the prognosis is excellent. Unfortunately, other varieties of basal cell neoplasms are unfamiliar and may not be diagnosed. This report concerns a deceptive variety of superficial epithelioma which had a bizarre morphology and was in an unusual location.

CASE REPORT

A 71 year old woman of Dutch descent had developed a shallow erosion anteriorly on the mid-portion of the left lower leg about eight years prior to our examination. Over the years, the area progressively enlarged, but also, deceptively, the lesion had seemed to improve after treatment on several occasions. In figure 1, notice that the 6 by 5 cm. basal cell carcinoma which she presented is not a tumor. The site on which this neoplasm grew had never received x-radiation, unusual injury or burn. The patient had never taken arsenical salts in the past, nor was there any suggestion of recent bromide or iodide ingestion. She had taken Artane intermittently without any untoward effect. No other neoplasms were found. She had Parkinson's disease and a chronic organic brain syndrome, but was well otherwise.

Initially, several physicians decided that the ulcer was the result of arteriosclerosis and venous stasis, but energetic treatment with various topical ointments and by supporting the legs with elastic bandages caused no improvement. She was referred to the University Medical Center where it was noted that the large shallow ulcer had some areas of in-

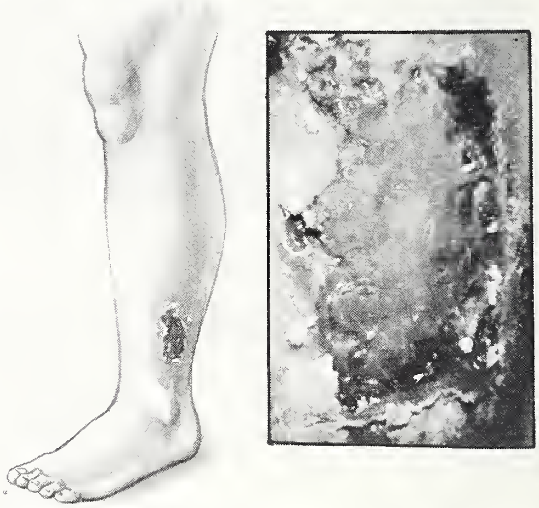

Fig. 1. A basal cell epithelioma resembling stasis dermatitis.

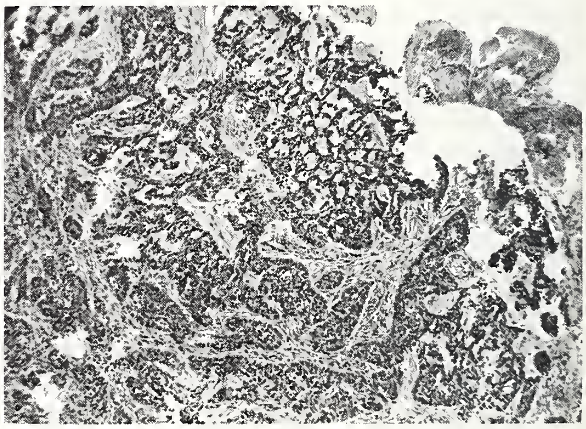

Fig. 2. Microscopic examination of the entire epithelioma demonstrated the homogeneity of the lesion.

fection toward the center, as well as areas which suggested an attempt to form granulation tissue. Telangiectasia of the border was not present, nor was there any evidence of the white waxy-pearly border which might be expected of a basal cell carcinoma. In some areas the border was slightly rolled and nodular. The remainder of the skin of the leg showed melanosis, hemosiderosis and some areas of venous ectasia. Pulses were decreased in both legs, but the feet had moderately good color and warmth.

A routine blood cell count, fasting blood sugar level, blood urea nitrogen level, urinalysis and serologic test for syphilis were all normal. Cultures on Sabouraud's agar of the exudate from the lesion did not grow. An x-ray picture of the chest found no abnormality. An Old Tuberculin test (Mantoux) was non-reactive at 48 hours.

It was decided to treat the erosion with open wet dressings, antibiotic powder, regular elevation of the extremity and a mild pressure bandage before proceeding to an excision for biopsy. The lesion was inspected at intervals and a gradual flattening of the border was noted and the infection cleared, but actual healing did not begin. Impaired epithelial healing lent more importance to the slightly nodular border and multiple excisions for biopsy were carried out in this area. Every part of the lesion was basal cell carcinoma. The patient was treated later by wide excision and skin grafting procedures. The postoperative course was uncomplicated.

DISCUSSION

Prior to 1860, when Jonathan Hutchinson reported the case of a 71 year old man who developed a typical basal cell carcinoma on the forearm, it was generally accepted that this neoplasm, then termed the "rodent ulcer," occurred only on the face.[5] Subsequent experience has shown that some uncommon varieties of basal cell epithelioma, particularly superficial basal cell epitheliomatosis of Wise, arise most typically on the body, and occasionally on the extremities. One may estimate that much less than 1 per cent of all varieties of basal cell epithelioma occur on the extremities.[6] If one were to further separate basal cell nevus, superficial basal cell epitheliomatosis of Wise and the secondary basal cell epithelioma arising in burns, scars and x-radiated skin from this group of epitheliomas on the extremities, it could be concluded that the single primary basal cell carcinoma arising late in life is extremely rare.

Basal cell nevi are usually segmental or linear, appear soon after birth, and resemble other epidermal nevi. These lesions are stable and benign until late in life when aggressive basal cell carcinoma may develop in several sites. Basal cell nevi have been associated with a variety of internal defects.[2, 4]

Wise's superficial epitheliomas are usually numerous, appear in the fourth or fifth decades of life and resemble papulosquamous lesions without ulceration initially. Hundreds of these lesions of various sizes and figurate shapes may be scattered over the skin. Both the tumor described in our patient and Wise's epithelioma are superficial and may be similar histologically, but to the clinical diagnostician the two look entirely dissimilar.[1] Williams and Butcher described five cases in which cutaneous carcinoma mimicked stasis ulceration of the leg, but all of these were squamous cell epithelioma.[7] Physicians seem to be aware of the single and primary basal cell carcinoma of the extremities which resembles stasis dermatitis, but other than Bohan's brief report, no cases are described.[3]

Infection, atrophy of aging skin, pigmentation, stasis dermatitis and arteriosclerotic changes of the legs all produce confusing changes in the clinical morphology of an epithelioma. Diagnosis of this neoplasm is unlikely at the time of the first visit to the physician. Some might argue that all chronic ulcerations of the lower leg should immediately be examined by biopsy, but this approach seems impractical. Development of hidden carcinoma in these ulcers is extremely rare, and the biopsy of persistent stasis ulcerations on an arteriosclerotic leg may lead to delayed healing, infection and other complications. It is more practical to rely on expert and repeated examinations of the morphology of the lesion, particularly if healing does not follow a trial of intensive treatment. Only those cases of chronic ulcerations of the legs which are suggestive of carcinoma would be biopsied.

SUMMARY

A case of basal cell carcinoma in an elderly woman is presented to urge that the single stasis dermatitis-like superficial eccentric and primary basal cell carcinoma be considered a distinct diagnostic variety, and perhaps a rare entity. The clinical diagnosis of these deceptive, rare epitheliomas should depend on careful inspection and the failure of epithelial healing after intensive treatment, rather than routine biopsy of all chronic acral ulcers in elderly persons.

(Continued on page 945)

JOHN MAYER, ***Columbia***

The Mouse Surgeon

Special Article

This is the 1962 winning article in the Arthur Rochford McComas Medical History Essay Contest.

Mr. Mayer is a junior medical student at the University of Missouri. He is a graduate of Rockhurst High School in Kansas City and received his B.A. degree from the University of Kansas in 1960.

"The great possession of any university is its great names. It is not the 'pride, pomp and circumstance' of an institution which brings honour, not its wealth, nor the number of its schools, not the students who throng its halls, but the men who have trodden in its service the serene abode of Fame, climbing 'like stars to their appointed height.'"—*William Osler.*

THE CHILLED EVENING mist which invariably accompanied a day of French downpours, seldom confined itself to the cow stable stall area. Eventually it would wend its way up the splintered stairs and be waiting to greet the two weary medics as they trudged homeward through Curel's muck. With the Armistice, Evacuation Hospital No. 34 had become one of many battle-weary hospitals concentrated in this tiny French village awaiting stateside orders. Often, on evenings such as this the two doctors would alternate roles in a ritual designed to relieve, with minimum effort, the ennui of their post-war billet. While one fought with soaked kindling in the drafty fireplace, the other commenced a criticism of the procedure, the village of Curel, the French weather and the other physician. This monologue usually terminated in silent despair as the two would sit and stare at the greenish rivulets of smoke curl about the wet logs.

"I don't know what will happen to me when I get back. I have no home, no practice, no hospital or teaching position, no money."

"Graham, when you get home you will be offered things on a silver tray."

Later, while terminating his tour of duty at Fort Sheridan, Major Evarts Ambrose Graham was to recall this prophecy as he accepted the Bixby Chair of Surgery at Washington University School of Medicine. Only Johns Hopkins and Washington of the American medical schools had thus far put clinical professorships on a full-time basis. As he discussed the position with Philip Shaffer, Canby Robinson and Eugene Opie he saw within reach realization of goals expressed long ago to his advisor while yet a sophomore at Princeton, ". . . to do major surgery, to engage in research work and to have a clinic of young men who would be interested in studying and developing ideas."

Upon his discharge, Graham at once set out for St. Louis to begin this work. His appearance at Barnes Hospital, still attired in his service uniform was met with mixed emotion by the old guard. They cast a jaundiced eye on this young upstart, who they say had been away from practicing surgery for nearly six years and had never done a great deal of surgery at any time. Their skepticism was equalled by Graham's own as he made his first tour of the house. In toto, Barnes had only 97 patients with 10 newborn infants. His own surgical service accounted for but 40 of these and the research laboratories left much to be desired.

"This paucity of clinical material," he thought, "will obviously serve as a major deterrent to any promising graduates considering Barnes, and certainly will hamper the successful training of my staff."

His dreams of research shelved, he set out to rectify this impossible situation by convincing the community that Barnes should be their first thought for medical care.

To assume, at 35, a professorship in a field in which he had received little recognition may be a bit unusual, but to shoulder the task of creating a first class medical institution to boot is little short of amazing. Some of the original men involved in this reorganization had already made their marks on medicine. Their opinions on administrative medicine and their wealth of knowledge in the rubrics of staff acquisition, financing and the ever important political finesse so often necessary in any public undertaking became available to Graham. Quite soon he became the accepted leader of this select group. His incessant activity in all aspects of this undertaking, and the absolutely unyielding loyalty which he displayed toward the medical school were to lead Chancellor Ethan A. H. Shepley to say of him later, "He was one of the greatest men I have ever had the privilege of knowing. In the medical faculty he was a tower of strength. . . . Unlike so many departmental chairmen, his primary concern was always for the medical school as a whole rather than for his own department. Although his own department was always the biggest earner, he insisted that a generous proportion of the fees earned by his full-time staff be turned over to the medical school rather than revert to the Department of Surgery. His firm stand on this issue greatly increased the solidarity of the medical faculty."

That this unselfish attitude in any way diminished the progress he was making in his own field is easily denied by the surgical residency program that was flowering under his patient yet demanding care. The men who came to Barnes in those early years eventually spread the reputation of the hospital and Evarts Graham throughout the world. Among his initial students were Barney Brooks, late Professor of Surgery at Vanderbilt University; Mont Reid, Professor of Surgery at the University of Virginia, and Alton Ochsner, who established the famous Ochsner Clinic in New Orleans. In nearly every medical institution in this country, and numerous ones abroad, a cursory examination of the surgical service usually turns up one of "Graham's Boys." Not only technical skill, but the diligence and ethical standards which an association with Dr. Graham engendered invariably so modified these students that the spread of his philosophy of medicine in general and surgery in particular endured through the years. His students carried the tradition throughout this continent and Europe, molding in turn hundreds of surgeons with the same devotion to the advancement of the science and art of surgery. Dr. Alfred Blalock, now Professor of Surgery at Johns Hopkins, eulogized, "Some great men so overshadow their young associates that they never develop independently. The large number of Dr. Graham's former associates who are leaders in surgery in this and other countries throughout the world is striking evidence of his ability to choose, to train, to inspire and not to dominate." The success of his program is due in no small measure to dissatisfaction with many facets of his own training, "In my student days the instruction in surgery consisted largely of lectures, quiz classes, the observation of operations from a seat in an ampitheatre from which the student could see practically nothing of the operation, and some desultory work in the outpatient sections."

A humorous example of the far-reaching consequences of this man's influence was initiated when Barney Brooks accepted a professorship in surgery at Vanderbilt. This excellent surgeon, after training under Graham, turned out many fine surgeons among whom was Alfred Blalock. Blalock soon became Professor of Surgery at Johns Hopkins and passed on his knowledge to a promising young man by the name of Rollins Hanlon. Dr. Hanlon is now Professor of Surgery at St. Louis University Medical School. The chickens came home to roost—but in the rival school!

Through the formulation of such ideals and the untiring efforts of Graham and his confreres the problems facing the newly reorganized school were gradually eliminated. The number of patients began to increase, and this despite the knotty problem of selling the closed-staff principle to unsympathetic St. Louisans and their family doctors. The physical plant itself multiplied with the efforts of many farsighted and generous people. Buildings such as the Mallinckrodt Radiology and Surgical Unit, Renard Psychiatric Center and Wohl Surgical Unit added their beauty to the Barnes Hospital Group.

After morning rounds Graham often stopped in the hall outside the 2400 ward using the viewbox there to glance over his radiographs. Frequently other members of his staff, residents and interns would linger and listen to his comments on the new thoracic cases. Among those usually present at these impromptu sessions were Drs. Harry C. Ballon and Jacob J. Singer who contributed much to the lively discussions. As the admissions increased through the years so did the little knot outside 2400. The staff and students from medicine were seen here in increasing numbers until the whole affair began to resemble a daily Medical-Surgical Conference. The advantages of such exchanges soon became apparent to the administration so that the Medical and Surgical Chest Service was born with offices and conference rooms at the ready. However, the providers of such luxuries did not reckon with the spontaneity of Evarts Graham—the discussions were still held at the old location, and are to this day held outside the 2400 ward in the corridor.

Graham recalls that in 1922, with the Missouri winter well underway, ". . . suddenly . . . the idea occurred to me that, since Abel and Rowntree had demonstrated the fact that the chlorinated phenolphthaleins are excreted almost entirely through the bile, it might be possible to obtain a shadow of the gallbladder by substituting for chlorine atoms other atoms which would be opaque to the x-ray."

The next day he presented his thoughts on this problem to Warren H. Cole, a young assistant surgeon who had just completed his residency at Barnes.

"Warren, barium meals have allowed us to visualize the G.I. tract and opaque injections have brought the ureteric pelves into view with overwhelming therapeutic significance. In view of the technical strides being made in roentgenography we shall soon have access to a picture of a patient's organ systems that will open whole new vistas of diagnosis and therapy."

The young doctor nodded at his mentor, and Graham launched into an explanation of his hypothesis for visualization of the gallbladder and biliary tract. The two men began casting about for a compound the nucleus of which was similar enough to the phenolphthaleins to permit its concentration by the gallbladder. Tetraiodophenolphthalein was the compound chosen and six dogs were injected intravenously with its sodium salt. Radiograms taken periodically after injection showed five blanks and one faint tracing. Their disappointment was keen, and but for that lone wispy outline Graham assures us the entire project would have been abandoned as fruitless. Instead, their queries into the basis for this single success led them to the thought that their non-fasting animals probably did not retain the bile long enough to concentrate their opaque salt. A trip to the animal quarters and a visit with the keeper supported this explanation. It seems through neglect one of the dogs had not received his meal on the morning of the tests.

Subsequent procedures with fasting animals yielded the long awaited results—radiographic visualization of the gallbladder. The two men were ecstatic.

"The inefficiency of the animal keeper has given us a significant breakthrough, Warren! Without this oversight the project would have been scrapped! Sometimes our efficiency can be a curse."

"Dame Fortune certainly smiled fair," exclaimed Cole, "If that one radiograph had been negative. . . ."

"Aah, it is quite curious on how fragile a thread the destiny of some events hangs."

From thence the development of cholecystography as a diagnostic tool required some technical ironing out with purification and dosages of primary concern. Joining the team at this time was Dr. Glover H. Copher, another surgical staff member who contributed much to the final phases and eventual acceptance of the Graham-Cole test of the functioning gallbladder.

Two criteria by which one may judge the significance of a contribution to clinical medicine are the rapidity with which it becomes routine and the longevity it sustains. For the cholecystogram this probation period was as short as its subscription has been long. Many have pointed to this achievement as worthy of a Nobel Prize in Medicine. Graham himself felt his most satisfying work took place on an April morning in 1933.

Forest Park was beginning to show definite signs of recovery from the bitter winter. Depression notwithstanding, the flowing willow and scarlet Judas were timorously displaying their wealth in an effort to hide their scarred bark acquired from the windy onslaught. The sun smacked the huge gray façade at 600 South Kingshighway exploding over the window sills into the wards and private rooms. It danced indiscriminately onto flower vases and oxygen tanks, through corridors and laboratories as the motes which it brought into relief swirled around the hurried white clad legs. It could not penetrate the shade drawn in Evarts Graham's fourth floor office. On this particular morning he was a worried man. In just a few minute he must walk down to the surgical suites and remove a large piece of lung from a fellow physician's chest, and the prognosis was grim. The patient, a 48 year old male obstetrician, came to him some months before complaining of high fever, chills and general malaise. An examination failed to indicate a cause. Later a fan shaped shadow in the region of the left axilla was demonstrated radiographically; however the doctor's symptoms slowly subsided and the shadow became smaller. Still later the symptoms returned with greater intensity and he was admitted to Barnes. Another radiograph indicated atelectasis of the left upper lobe with surrounding pneumothorax. He had referred the man to Dr. Arbuckle for bronchoscopy, and biopsies taken at this and at two other times revealed a squamous cell carcinoma of the bronchus.

Graham slid back in his chair stretching his long powerful legs.

"Surely," he thought, "some procedure must be devised for management of primary carcinoma of the lung. Radium and radiotherapy have failed to produce a single case without recurrence. At present all we can do is haplessly attempt to stifle its insidious advance by radical removal of the surrounding tissue." His thoughts were interrupted by Miss Hanveys' knock. The wonderfully efficient secretary reported that his patient had arrived in surgery.

Striding briskly through the corridor, the surgeon recalled that if his patient lived he would be but the seventh to survive surgical removal of a bronchiogenic carcinoma. Two of these were a product of the skilled hands of the German surgeon Sauerbruch, and two by the British operator Tudor Edwards. One patient had survived the procedure by Allen and Smith, and another operated on by his friend Edward Churchill. All the other efforts to dissect out the deadly growths had resulted in disaster.

After scrubbing he walked into the brightly lit room and saw Jacob Singer, his assistant for the day, bending over the sleeping form on the table. The thoracotomy proceeded uneventfully followed by exposure of the diseased bronchus. As he was completing this he noticed a couple of alarming signs. The extent of the growth was much greater than he had anticipated. It followed the upper lobe bronchus so far mesially that it encroached on the lower lobe bronchus. As if this in itself were not enough to negate any hope of saving the lower lobe, Singer pointed to the strangely swollen nodules along the upper part of this structure. At once the surgeons realized the only course open to them—total pneumonectomy. Never in the history of surgery had such a measure been survived. Nissen of Berlin and Haight of Ann Arbor, Michigan, had approximated what was contemplated, but in both instances the lung had been ligatured at the hilus and allowed to slough out. Reluctantly Graham looped a rubber catheter around the pulmonary artery.

"If sudden ligation of this large vessel causes no untoward effects, then removal should be permissable."

Sharply he crossed the two ends of the tube and the flow of blood to the lung ceased. The seconds crept by, and after an interminable wait the anesthetist reported no change in the patient's condition. The crushing clamps were placed on the hilus and the lung cauterized from its root. The patient survived history's first total pneumonectomy and eventually returned to his busy practice.

Years later, after pneumonectomy became the preferable treatment for cancer of the lung, Graham drew an analogy to his work on the cholecystogram, "Fortunately for the development of the procedure (cholecystography) we did not stop our work because of initial discouraging occurrences, but continued and eventually found something that was really better than what we had set out to find. In that respect our work might be considered as an example of serendipity . . . it seems preferable to regard the work as an example of an 'almost miss.' . . . Probably many a good idea lies buried under the misfortune of an initial failure, for various reasons, to demonstrate its truth. . . . If I had found the conditions more favorable for a lobectomy, the general use of the operation of a total pneumonectomy in the treatment of bronchiogenic carcinoma would almost certainly have been at least delayed."

That Evarts Graham felt this and not cholecystography was his greatest accomplishment is known to many, but few could puzzle out the reason. It is apparent from his Curriculum Vitae that he felt the truly great advancements in medicine would be the product of a thorough knowledge and application of the basic sciences to clinical problems. Why then should he derive greatest satisfaction from a mere technical feat? Dr. Thomas Burford points the way in saying, "To understand this apparent paradox it is necessary to have known the man. He came to St. Louis noted only for productive research and was contemptuously dubbed the 'Mouse Surgeon' by the entrenched, but now forgotten, old guard. He neither forgot nor forgave this indignity. In addition, he was always mindful that careful, bloodless technics were not his forte. How natural then that the *fait accompli* of so magnificent a technical feat should symbolize to him a major victory—a triumph in the only area of his many endeavors where he even felt the slightest sense of inadequacy."

The Depression Years gave way to the War Years. Barnes became the mecca of wartime surgical training. The increased demand for physicians capable for front line and evacuation hospital duty necessitated a drastic crash program which removed some 60,000 physicians into the armed services. This plus the flagrant use the services were making of medical men, prompted Dr. Graham to rise in indignation. The factual blunt articles written during this time earned him many enemies, not only in the selective service but in the civilian population as well. For to publish in a nationally syndicated magazine an article entitled "Have the Armed Services Crippled Medical Education?" at the height of the war is a tribute to the man's convictions. Yet the fact that this indiscriminate draft had left but 58 per cent of the entire medical population to care for all those at home and to carry on the essential task of education alarmed many in the profession. Most infuriating to Graham was the gradual despoliation of his residency program built up since his first days at Barnes. A former resident during this period, points to an event which may have happened more than once as the chief saw the quality of his program disintegrate.

Periodically, the military would assign a group of men to Barnes for accelerated training in surgery. Once when the number of complaints from his staff members reached a high point, Graham decided to hold informal interviews with the trainees in an effort to solve their problems. The only facts which he could derive were that not only were these people generally noncommittal toward their training but most of them had had little or no prior training in surgery at all. Graham refused to accept them into his program, and they were shipped back to Washington. A small furor over the incident preceded the apologies of the service involved, for by now it was established that Evarts Graham was a man of tenacity when he saw his principles being undermined. Joseph Hinsey, Director of the New York Hospital-Cornell Medical Center, sums up this trait with, "He had unusual powers of discrimination which led him to recognize the important from the unimportant, the real people from the counterfeits. . . . He was a liberal in the best sense and had the courage of his convictions."

While Washington University and Barnes Hospital benefited much from his productivity, the truly great scientist can never be purely a local phenomenon. His prodigious capacity for work led him to assume many important roles in furthering the medical care of St. Louis and surrounding areas. Homer G. Phillips Hospital owes much to Dr. Graham, for it was primarily his zeal that brought one of his residents, Dr. Robert Elman, to their aid. Koch Hospital will long remember his life-giving aid in maintaining their surgical service when the cause was almost lost. As the years and accomplishments increased, so did the scope of his influence. Throughout the State of Missouri many institutions and societies were rewarded in their association with Dr. Graham. Among other things he was instrumental in establishing the Ellis Fischel State Cancer Hospital in Columbia, and supplied from his residency program their first surgical director, Dr. Eugene Bricker. Since then this position has been often filled by men from his department. Among these were Dr. John Spratt, present director, Dr. Henry Schwarz, and Dr. John Modlin, now Professor and Chairman of the Department of Surgery at the University of Missouri School of Medicine.

As early as 1922 Graham was asked by the Rockefeller Foundation to investigate the teaching of surgery in Great Britain. With this honorable assignment he became extremely active in national and international medicine. From membership on the National Board of Medical Examiners and the Medical Task Force of the first Hoover Commission to the presidency of the International Society of Surgery Graham became, as Sir Russell Brock has said, ". . . an elder statesman of world surgery."

As his interest in American surgery in general quickened, one could see the characteristic Graham approach of "doing" instead of "discussing." He was one of the principals responsible for establishment of the American Board of Surgery, serving as its first chairman. During his life he occupied the presidency and was a member of every noted surgical society in this country. Of special note was the fact that only Cushing and Halsted of the surgical profession were members of the National Academy of Sciences when Dr. Graham was elected. Without elaborating, one must allude to the great international acclaim which this humble Missourian received beginning with his appointment to the Kaiserlich Deutsche Akademie der Naturforscher. Graham and Cushing are the only two American surgeons ever to receive the Lister Medal of the Royal Academy of Surgeons of England. It would be redundant to treat in detail the nearly full page of microscopic print in *Who's Who* which tabulates his honors.

Many might think such an imposing figure as glimpsed in these pages would be austere to the extreme, forever the man of science, aloof and forbidding to the lesser light; but even a casual association has shown Evarts Graham to be a man of facile wit whose wry observations enlivened many a conference. An incident illustrative of this humor occurred at the conclusion of the first Eisenhower-Stevenson campaign. According to Dr. Burford, Dr. Graham's concern over radioactive fall-out led him, with his friend Norman Cousins, to persuade Stevenson to make an issue of Strontium 90 and testing in his campaign. So Graham, whose political opinions were as strongly held as his medical opinions, was an avid Stevenson fan. As part of this he used to constantly wear a button of good size, saying "I Like Adlai." One of his former residents recalls entering the hospital cafeteria the noon after the election was over and noting Dr. Graham seated across the room, still with the large button pinned to his white coat. The surgeon thought this was a bit out of character for Dr. Graham since even though he is a tough fighter, when the game is over he is usually willing to admit it. When he finally got his tray and sat down with Graham he got a close look at the button. It said in large red letters, "I Like Falstaff."

The most significant diagnosis which this great man ever had to make was the pronouncement of "inoperable bronchiogenic carcinoma" when shown his own chest x-ray. His residents had received the films with his latest physical report, and realizing the irreplaceable loss to medicine and humanity such a diagnosis would indicate they presented them anonymously to their chief for verification—he confirmed their diagnosis. The tragic irony of this can be appreciated only when one realizes that no one out of the thousands of outstanding thoracic surgeons which he trained could help him, and that despite not having smoked for seven years he had contracted the same dread disease which provided the *raison d'etre* for the first total pneumonectomy. Incidentally, the patient attended Dr. Graham's funeral. To the end he worked diligently on the prophylactic aspects of his affliction with Ernest L. Wynder.

Two cardinal beliefs which guided the medical life of Evarts Graham were, first, a profound dedication to the principle that true progress in surgery will be made through the proper application of the basic sciences and, secondly, an unshakeable faith in the virtue of personal courage, whether it be dealing with the first pneumonectomy or a personal vendetta with the Selective Service Department in Washington, D. C.

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(Continued from page 939)

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Kenneth C. Hollweg, M.D.

President's Message

It has been generally conceded that consideration by Congress of tax changes was a delaying factor in hearings on the King-Anderson bill. While other matters still are holding the attention of Congressmen, predictions from Washington vary from October hearings to no hearings, on King-Anderson. Also, it is strongly predicted that another similar bill will soon be introduced. Also, there is the possibility of amendment, as was learned in the last session of Congress.

In all, it appears that physicians must remain on the alert and stay conversant with legislative matters, even more actively than they have so far in this session. Are you in touch with your Congressman so that you can contact him on matters of interest to the medical profession? I hope each member of the Association feels that he has an important part to play in legislation.

Kenneth C. Hollweg MD

EDITORIAL

LONGEVITY CONTINUES TO INCREASE

Since the middle of the 19th century, the average length of life in the United States has increased about 29 years. According to mortality conditions in 1850, the expectation of life at birth was approximately 41 years. By 1962, the figure had risen to about 70 years.

The improvement in longevity has been much more rapid in the period since 1900 than in the preceding 50 years, despite the limited gains made during the past decade. Among white males, the increase in expectation of life at birth was about eight years from 1850 to 1900-02 and about 19 years in the following six decades. The gain for white females was the same as that for white males prior to 1900-02, and was as much as 23 years in the subsequent period.

As a result of these trends, the difference in longevity between the sexes has widened. In 1850, the average length of life among white females exceeded that for white males by only two and one-half years. In 1900-02 the difference was nearly three years, and by 1960 it had increased to more than six and one-half years, the expectation of life at birth being 74.1 years for white females and 67.4 years for white males.

The largest gains in expectation of life have been recorded in childhood and early adult life; some progress has also been made at the older ages. In the past half century, the expectation of life at age 45 has increased three and one-third years among white men and seven years among white women; at age 65 the corresponding gains have been one and one-half and four years. As a consequence, the men at age 65 can now look forward to 13 additional years of life, on the average, while the women still have an average of 16 years ahead of them.

Mortality among white females prior to midlife has dropped to low levels. Their death rate currently is less than one per 1,000 in the range of ages from two through 32 years, and remains under two per 1,000 through age 40. Among white males, death rates under one per 1,000 are experienced at ages three through 15 and are under two per 1,000 through age 34.

Since 1900-02 the expectation of life at birth among nonwhite persons has increased 31.3 years for females and 28.6 years for males. With the more rapid progress among non-whites than among whites, the difference in longevity between them has been reduced. Nevertheless, the expectation of life at birth for nonwhites is still considerably below that for the white population —by 6.3 years among males and 7.8 years among females.

Since 1954, only a half year has been added to the average length of life in the United States, and it appears that the future will bring relatively small further gains. The marked advances of earlier decades resulted largely from a sharp rise in living standards and outstanding successes in controlling tuberculosis, pneumonia, the communicable diseases of childhood and many other infectious diseases. Some additional gains in longevity will undoubtedly be made through further reductions in the death rate from infectious disease and from some other causes. However, the total mortality is already so low in childhood and early adult life that further decreases in death rates at these ages would add comparatively little to the average length of life in the United States. For example, if all deaths in the first 25 years of life could be prevented, the expectation of life at birth would be increased only three years. In fact, if no deaths whatever were to occur before age 50, the average lifetime would be increased five and one-half years, or by only one fourth the gain since the turn of the century. Future progress in longevity will depend largely on the magnitude of the reductions in mortality from the chronic and degenerative diseases.

However, in the first six months of 1963, the death rate among the industrial policyholders of the Metropolitan Life Insurance Company was 8 per cent above that in the like period of last year and the highest in nearly two decades. The increase is accounted for largely by widespread outbreaks of influenza, which not only raised the death rate from pneumonia and influenza but also the mortality attributed to the cardiovascular-renal and other major chronic diseases. Through June, the total death rate for all ages combined was 7.9 per 1,000 policyholders, compared with 7.3 a year ago. Each of the first six months recorded a higher mortality rate in 1963 than in the year before, the disparity being greatest in late winter. In the first quarter of the year, the excess was 12 per cent. In May, however, the rate was only a little higher than that for the month a year ago, and in June the rates for the two years were about on a par.

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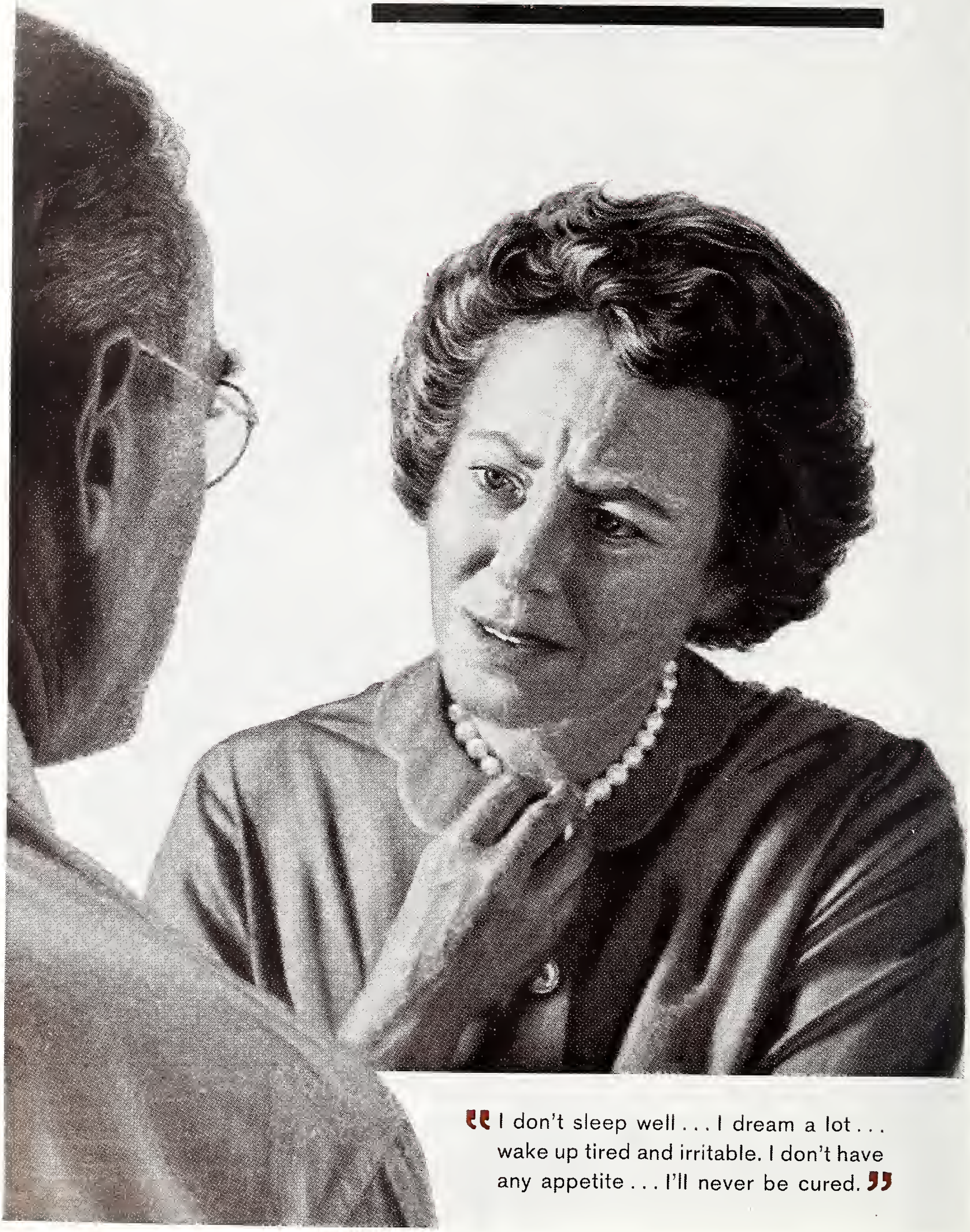

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Ramblings of the Field Secretary

Including high school and college coaches, physicians and other interested personnel 250 people attended the Annual Athletic Injury Conference sponsored by the St. Louis Medical Society, Sunday, August 18, at the Society's auditorium. The stated purpose of the conference was to emphasize the protective procedures which should be followed by the schools to the end that every athlete should have the best possible protection for sports participation. Safer sports participation should be one of the goals of every school program of athletics.

Panelists were Coaches Devine, Benington, Gallatin and Keane with Bob Burnes moderating.

The program began with registration and the serving of a light breakfast from 8:00 to 8:30 a.m. Demonstrations were than given by Bob Bauman, Trainer, St. Louis Cardinals and St. Louis University Billikens on "Rehabilitation and Care of the Pitching Arm," and Bruce Melin, trainer, Washington University Bears on, "The Trainer's Role in Injuries."

Drs. London, Neilson, Burst and Schwartz served on a panel.

An interesting panel discussion of coaches, moderated by Bob Burnes, Sports Editor, *Globe-Democrat,* held complete audience attention. Members of this panel included: Dan Devine, University of Missouri Football Coach; John Benington, St. Louis University Basketball Coach; Harry Gallatin, Coach of the St. Louis Basketball Hawks, and Johnny Keane, Manager of the St. Louis Baseball Cardinals. The panel commented on conditioning, diets, effects of injuries on key players and answered questions from the audience.

Another panel discussion was moderated by I. C. Middleman, M.D., surgeon, St. Louis Cardinals, with panel members as follows: Harry G. Schwartz, M.D., neuro-surgeon, St. Louis; Donald O. Burst, M.D., orthopedist, St. Louis; Arthur W. Neilson, M.D., dermatologist, St. Louis; and Stanley L. London, M.D., surgeon, St. Louis Hawks. These physicians discussed injuries and prevention of such in their special fields.

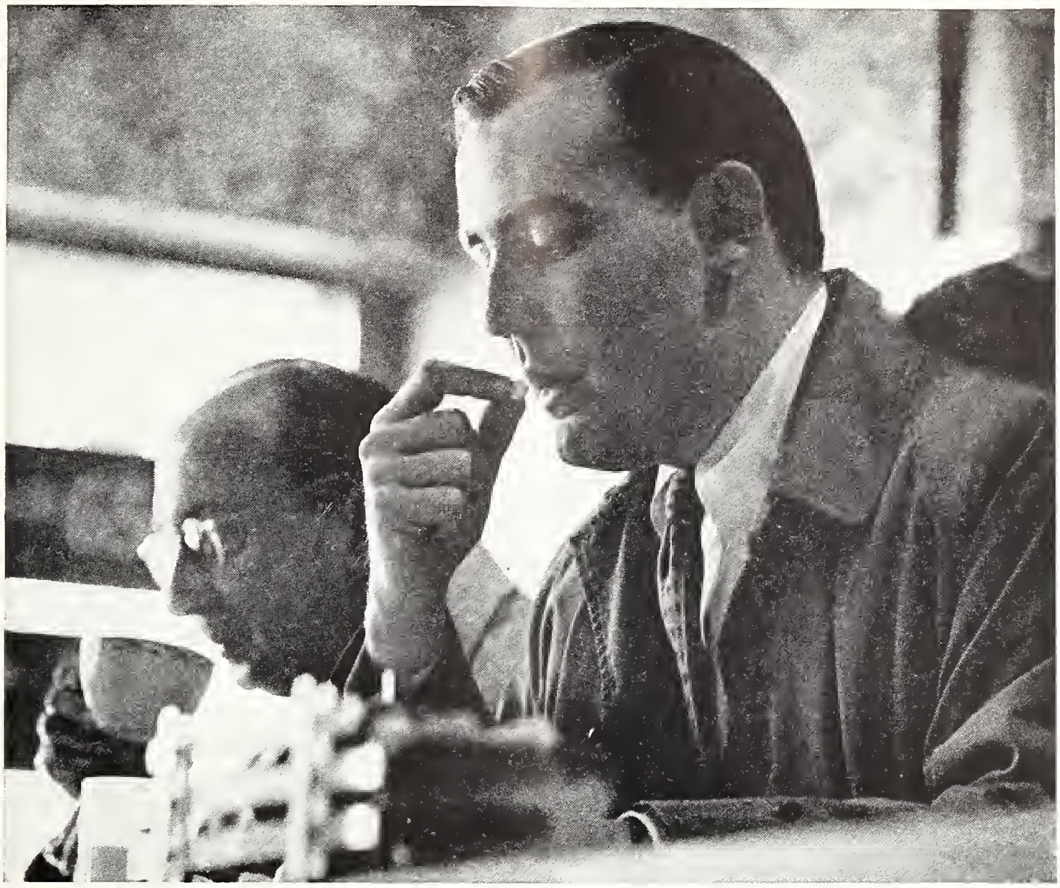
Stan Musial and Dr. Middleton (far left) pose with panel participants.

Bob Hickok, physiotherapist of the St. Louis Hawks, presented demonstration technics for conditioning of the athlete, muscle building and rehabilitation following injury.

A special feature of the program was the presentation to Stan Musial by the St. Louis Medical Society of a plaque with inscription signifing recognition of his outstanding contributions to the field of sports and his splendid example for athletes everywhere.

At noon brunch was served through the courtesy of the St. Louis Medical Society and the efficient arrangements of Executive Secretary, Hollister Smith.

Baseball tickets to the Cardinals and Giants game on Sunday afternoon were given to all at



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*Schwartz, I. R.:
Current Therap. Res. 3:29, Feb., 1961.

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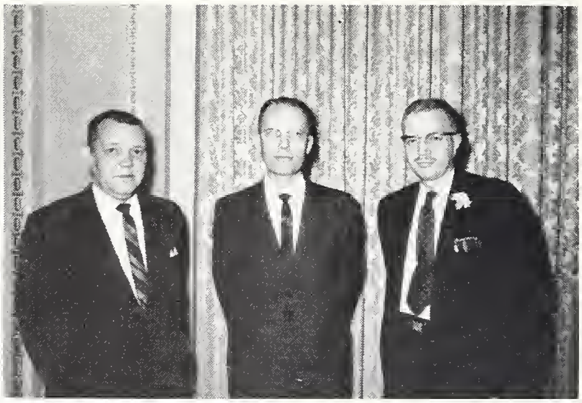
the conference, who wanted them, compliments of the Cardinal management. Rain, however, eliminated this part of the day's program.

The Northwest Missouri Chapter of the MAGP with assistance from Eli Lilly and Company sponsored a postgraduate seminar Thursday afternoon and evening, August 22, at the Robidoux Hotel in St. Joseph. More than 100 physicians from the Northwest Missouri area attended. The program began at 3:00 p.m. with scientific lectures, added a social hour and dinner in the evening, and then concluded with additional scientific presentations. Those participating on the program proper were: Charles W. Mayo, M.D., Mayo Clinic, Rochester, Minn.; Mahlon Delp, M.D., Professor and Chairman of Department of Medicine, University of Kansas Medical School, and George W. Austin, M.D., Department of Orthopedic Surgery, University of Missouri Medical School.

Speakers and officers get together.



Dr. Mabrey, secretary; Dr. Austin, speaker, and Dr. Rost, program chairman, pose after the meeting.

The President of the Northwest Missouri Chapter is Manning E. Grimes, M.D., St. Joseph, who presided at the meeting. Dr. John P. Mabrey of Plattsburg is secretary and handled many of the details concerned with the sessions. Dr. William B. Rost of St. Joseph served as program chairman. He is a member of the Education Committee of the MAGP and President-Elect of the Buchanan County Medical Society.

This P.G. seminar is acceptable for four hours of Category I Postgraduate Credit by the American Academy of General Practice.

DEATHS

Hertel, Albert L., M.D., Affton, a graduate of St. Louis University, 1907; member of St. Louis County Medical Society; aged 82; died August 6, 1963.

Hrdlicka, Victor E., M.D., Clayton, a graduate of St. Louis University, 1923; member of St. Louis Medical Society; aged 63; died August 6, 1963.

Simpson, Lloyd, M.D., Columbia, a graduate of Marion Sims College of Medicine, 1893; member of Boone County Medical Society; aged 92; died August 7, 1963.

Macko, Joseph R., M.D., St. Louis, a graduate of St. Louis University, 1934; member of St. Louis Medical Society; aged 54; died August 12, 1963.

Kirk, Charles W., M.D., Hopkins, a graduate of the Medical College of Kansas City, 1905; member of Nodaway-Holt-Atchison-Gentry-Worth County Medical Society; aged 82; died August 21, 1963.

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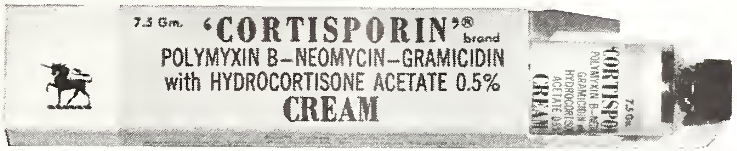
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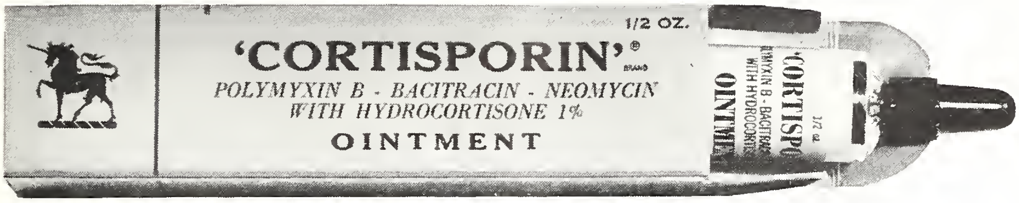
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News—Personal and Professional

The Women's Kansas City Association for International Relations and Trade has elected **Hester J. Wilson**, M.D., Kansas City, as president.

"Changing Concepts in Mental Health" was the subject of a talk presented at the Lamar Rotary Club by **Paul D. Barone**, M.D., Nevada.

Speaking before the Chillicothe Kiwanis Club late in August, **Donald M. Dowell**, M.D., Chillicothe, explained the King-Anderson bill and told of some of the accomplishments of medical organizations.

The twelfth quarterly postgraduate seminar for family physicians will be held at the Neurological Hospital on October 20 from 2:00 p.m. to 7:00 p.m.

Early in August **Richard A. Sutter**, M.D., St. Louis, spoke at the first annual meeting of the Arkansas Association of Industrial Nurses at Fort Smith, Arkansas. Dr. Sutter discussed "A Medical Program for Your Plant."

For a term ending March 13, 1965, **Stanley S. Peterson**, M.D., Springfield, has been appointed a member of the Missouri Nursing Home Advisory Council.

Speaking to a college youth group of the Beth Shalom Congregation, **Jacob Zellermayer**, M.D., Kansas City, discussed "Frontiers of Modern Medicine."

At a summer meeting of the Business and Professional Women's Club in Grandview, **Terry E. Lilly Jr.**, M.D., Kansas City, spoke on "Visit to Moscow."

NEW MEMBERS

Morris P. Gordon, M.D., 701 E. 63rd St., Joplin, has become a member of Jackson County Medical Society. Dr. Gordon is a native of Kansas City, Mo., received his preliminary education at the University of Missouri, and his M.D. degree at the University of Missouri in 1959. He specializes in general practice.

H. Richard McFarland, M.D., 4320 Wornall Road, Kansas City, has become a member of Jackson County Medical Society. Dr. McFarland is a native of Kansas City, Mo., received his preliminary education at the University of Kansas, and his M.D. degree at the University of Kansas in 1957. He specializes in neurology.

William G. Marshall, M.D., Glasgow, has become a member of Howard County Medical Society. Dr. Marshall is a native of Gilman City, Mo., received his preliminary education at the University of Kansas, and his M.D. degree at the University of Kansas in 1962. He specializes in general practice.

Alfred Owre Jr., M.D., 2200 McCoy St., Kansas City, has become a member of Jackson County Medical Society. Dr. Owre is a native of Minneapolis, Minn., received his preliminary education at Yale University, and his M.D. degree at Yale University in 1951. He specializes in psychiatry.

Thomas L. Stribling, M.D., 10901 Winner Road, Independence, has become a member of Jackson County Medical Society. Dr. Stribling is a native of Kansas City, Mo., received his preliminary education at the University of Missouri, and his M.D. degree at the University of Kansas in 1957. He specializes in obstetrics and gynecology.

Donald E. Wells, M.D., Glasgow, has become a member of Howard County Medical Society. Dr. Wells is a native of Sedalia, Mo., received his preliminary education at Central Missouri State College, and his M.D. degree at the University of Missouri in 1962. He specializes in general practice.

Ruth E. Wilcox, M.D., 114 W. 32nd St., Joplin, has become a member of Jasper County Medical Society. Dr. Wilcox is a native of Gothenberg, Neb., received her preliminary education at the University of Nebraska, and her M.D. degree at the University of Nebraska in 1951. She specializes in general practice.

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County Society News

FOURTH DISTRICT

PAUL R. WHITENER, ST. LOUIS, COUNCILOR

Jefferson County Medical Society

The Jefferson County Medical Society held a special meeting July 23, 1963, at Jefferson Memorial Hospital. Dr. R. H. Allbee resigned as president and Dr. F. L. Kozal resigned as secretary. New officers were then elected with Dr. Kozal as president, Dr. W. T. Judge as vice-president, and Dr. J. L. Mayfield as secretary-treasurer.

Following the business session, Mr. Reeves of the United Cerebral Palsy of Missouri Association, presented a program for a proposed Cerebral Palsy work shop in the Jefferson County area. After a brisk and lively discussion, a committee consisting of Dr. Senn as chairman with Drs. Yoskit, Judge and Kozal was formed to work in liaison with the association to help in this work. The meeting then adjourned.

F. L. Kozal, M.D., *Secretary*

SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

Lafayette-Ray County Medical Society

The June meeting of the Lafayette-Ray County Medical Society was held on July 11, 1963, at Lexington. Dinner was served following which the meeting was turned over to George Rodgers, M.D., urologist, Kansas City. Dr. Rodgers gave an interesting discussion of lower urinary tract obstructions. Following Dr. Rodgers presentation, general discussion was held. A business meeting was not held.

Wayne Boydston, M.D., *Secretary*

Meeting of July 9

The July meeting of the Lafayette-Ray County Medical Society was held on July 9, 1963, at Lexington. Dinner was served, following which the meeting was called to order. A short discussion of the project "Operation Home Town" was held. Wayne Boydston, M.D., was appointed to set up the project and appoint chairmen for each community to carry out the project. Further discussion will be held at the next meeting.

Dr. William LaHue was accepted into the Lafayette-Ray County Medical Society. Business meeting adjourned.

Program was then turned over to Dr. William Hoadly, internist, Kansas City, who gave an interesting discussion of cardiac arrhythmia, diagnosis and treatment thereof. A short general discussion was held following his presentation.

Wayne Boydston, M.D., *Secretary*

Meeting of August 13

The regular August meeting of the Lafayette-Ray County Medical Society for doctors and wives was held on August 13, 1963, at Maib's Cafe, Lexington.

After dinner, the meeting was called to order by the vice president, Wilbur Fulkerson, M.D. The minutes of the preceding meeting were read and approved. It was noted that thank you cards had been received from Dr. Payne's family and from Dr. Martin for flowers received from the Society.

The meeting was then turned over to Wayne Boydston, M.D., who discussed the King-Anderson plan for care of the aged under Social Security. He pointed out the fallacies and inadequacies of this particular program. He stated that most are quite aware of the fact that medical care for the aged as well as for the younger people had not reached a point of Utopia and certainly had some inadequacies, but that the King-Anderson plan certainly was no answer to these inadequacies and could only make the situation worse.

"Operation Home Town," a program to bring to the people more information concerning this particular problem, was then discussed and a plan set forth by which the Lafayette-Ray County Medical Society could carry out this program. J. S. Cope, M.D., was appointed co-ordinator of the program and given the duty as County Campaign Chairman, Materials Distribution Chairman and the enlisting of ally support. The following area chairmen were appointed: Joe Ward, M.D., Lexington; Jordan Kelling, M.D., Waverly; Walter Koppenbrink, M.D., Higginsville; Charles Riley, M.D., Richmond; Catherine Boydston, M.D., Odessa; and Hugh Brady, M.D., Concordia. The area chairmen were assigned with the following duties: To provide speakers for any group in that particular area and inform all groups of the area that the speakers were available; to contact newspaper and radio

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Wayne Boydston, M.D., *Secretary*

TENTH COUNCILOR DISTRICT

W. D. ENGLISH, CARDWELL, COUNCILOR

The Butler-Ripley-Wayne County Medical Society, with the cooperation of the University of Missouri Athletic Department and Medical School, sponsored a conference on Athletic Injuries for coaches and physicians in southeast Missouri on Sunday, August 11, at the Holiday Inn at Poplar Bluff. In addition, credit must be given to the administration and coaches of the Poplar Bluff schools for their valuable assistance in promoting the entire affair.

A large attentive audience was present.

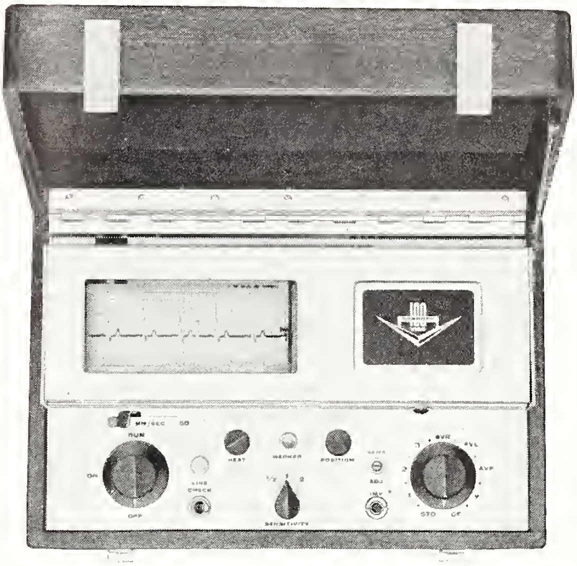
The program began at 10:00 a.m. with a symposium by the University of Missouri Athletic Department which included a discussion of "Knee and Ankle Injuries" by Glenn McElroy, M.D., Columbia, orthopedic consultant; "The Role of the Team Physician Regarding Soft Tissue Injuries, Shoulder Injuries and the Immediate Care and First Aid for Athletic Injuries," by James Baker, M.D., team physician, University of Missouri, and "The Trainer's Responsibilities" with demonstrations by Mr. Fred Wappel, trainer, Athletic Department, University of Missouri. Questions from the audience followed the conclusion of this symposium.

Program participants were (standing) Drs. Bender, McElroy, Wilson, Biggs; (seated) Drs. Baker and Palazzo, Mr. Wappel, and Drs. Gist and Hoge.

After lunch the program continued with "The Prevention of Head and Neck Injuries, Their Early Detection and First Aid for These Injuries," by Frank A. Palazzo, M.D., neurosurgeon; "Conditioning of Athletes with a Demonstration Concerned with Evaluating Muscle Injuries," by Jay A. Bender, Ph.D., Professor of Research Physiology, Department of Physical Education, Southern Illinois University, Carbondale, Ill.

The final part of the program was a discussion and film given by A. C. Gist, D.D.S., and J. F. Hage, D.D.S., of Poplar Bluff on "Dental Protection for Athletes." Approximately 125 coaches and physicians from the southwest Missouri area attended this interesting and informative program on the prevention and handling of athletic injuries.

The Butler-Ripley-Wayne County Medical Society is to be congratulated on this worthwhile undertaking, and special credit goes to Fred J. Biggs, M.D., Poplar Bluff, who served as program chairman in developing the entire program.



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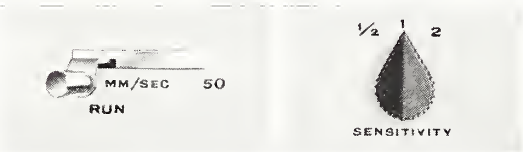

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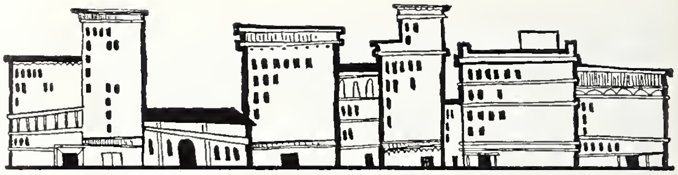
From the Medical Schools



WASHINGTON UNIVERSITY

Tyson Valley Land Acquired

Washington University has announced plans to establish a major research center devoted to high priority scientific, medical and technological research. The center is being developed on a 2,000 acre portion of the former Tyson Valley powder storage farm transferred to the University by the General Services Administration.

The site, valued at $950,000, is 18 miles southwest of St. Louis on Highway 66.

Chancellor Thomas H. Eliot emphasized the role the center will play in accelerating the scientific and technological development of the Midwest, stating, "For the first time there will be a non-profit center of major proportions in the St. Louis area devoted to pure and applied research. It provides the University and the community with a superb opportunity to enhance the role of the Midwest in the progress of the nation as a whole."

At the center research will be conducted in medicine, space science, nuclear physics, genetics, soil erosion, air and water pollution and in a wide variety of other immediate and long range scientific and technological fields.

Among the projects of the School of Medicine will be the following: establishment of a national primate center; establishment of stocks of inbred animals, large and small, for both national and local needs; breeding, maintenance and care of groups of disease free animals, large and small.

Studies will take place on radioactive exposure; missile injuries; germ-free environments; the psychiatric effects of confinement in small spaces; the effects of air-conditioning on bacterial infections; aerosols in the production of immune reactions; effects of air pollutants, pesticides and water pollution; and the effects of air, soil and water pollution and of trace elements on foods, growth and development, and on tumors.

There will also be space for accumulation and storage of x-ray film and medical specimens, acceleration and deceleration studies, bone growth studies in large mammals, and storage of radioactive materials.

Cyclotron Installed

A cyclotron for Washington University School of Medicine is being installed in the basement of Barnard Free Skin and Cancer Hospital. It will be the first such unit operated in a medical center in the United States for production of short-lived isotopes. Construction of the research aid was financed by a $328,000 grant from the United States Public Health Service.

Dr. Michel Ter-Pogossian, professor of radiophysics at the School of Medicine and director of the project, said the unit will facilitate biological and clinical investigation and treatment of cancer patients.

Isotopes including oxygen-15, carbon-11 and fluorine-18 will be piped to an adjacent laboratory in the basement of Barnard Hospital and to a laboratory on the hospital's fifth floor when the cyclotron goes into operation in late October.

The cyclotron, constructed by Allis-Chalmers Co., Milwaukee, weighs 25 tons and fills a pit 24 feet long and 15 feet wide. The unit is about 12 feet tall and rests in the six foot excavation lined with concrete. Installation includes construction of a gas-generating system, an irradiation system and various radiation detectors. It will be operated by John Eichling, a nuclear engineer employed by the medical school.

New Faculty Members

Dr. Allen Enders, who recently joined the Washington University School of Medicine faculty as associate professor of anatomy, has received a research grant from the National Science Foundation to continue his investigations of the structure of the fertilized egg before it establishes contact in the uterus of animals.

Dr. Enders has been doing similar investigations at Rice University, Houston, where he served as associate professor and director of the undergraduate research participation program in the department of biology.

He will use the $20,200 National Science Foundation grant to study the implantation process

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in mink, armadillo and other animals in which the fertilized egg remains in the uterus for a prolonged period of time before establishing contact and continuing development into an embryo.

By studying the cellular structure and by experimental alteration, Dr. Enders hopes to gain a better understanding of the formation of the attachment of the egg and factors controlling growth and development at this stage.

Dr. Gerald T. Perkoff has been appointed chief of the Washington University Medical Service at St. Louis City Hospital. Dr. Perkoff, who was associate professor of medicine at the University of Utah School of Medicine, Salt Lake City, holds the same rank at Washington University School of Medicine. In Salt Lake City Dr. Perkoff was also Chief of the Medical Service at Veterans Administration Hospital.

In his new position Dr. Jerkoff is responsible for developing a full-time staff for the Washington University Medical Service at St. Louis City Hospital to assist him in carrying out his responsibilities for patient care and teaching. He will also continue research in metabolic and neuromuscular disorders with a special interest in investigating possible causes of muscular dystrophy.

Dr. Perkoff is a 1948 alumnus of Washington University School of Medicine. He took postgraduate training at the University of Utah and Salt Lake County General Hospital and served as a junior investigator at the National Institute of Arthritis and Metabolic Disease from 1952-1954. He was on the medical staff of the University of Utah from 1954-1963, and a Markle Scholar from 1955 to 1960. He was elected best teacher of the year by medical school students at the University of Utah four years out of the last five.

Grants

More than $70,000 have been provided in grants and fellowships to members of the staff of Washington University School of Medicine by the St. Louis Heart Association and the American Heart Association. The funds support scientific studies in the field of heart and blood vessel diseases.

Recipients of St. Louis Heart Association grants are Dr. M. Remsen Behrer, associate professor of pediatrics, to study the effect of quinidone upon irregularities of heart rhythm in infants and children, $5,000; Dr. Erik Carlsson, assistant professor of radiology, to study a new method for volume determination of the ventri-

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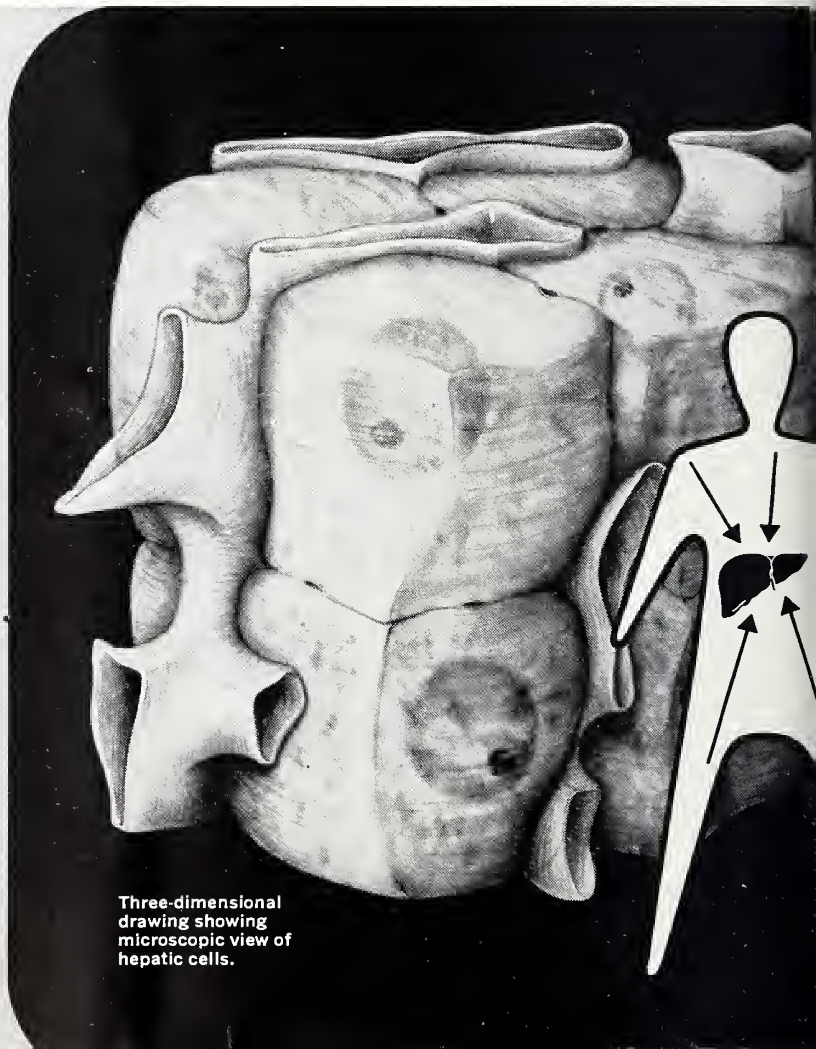

Three-dimensional drawing showing microscopic view of hepatic cells.

cles of the heart, $4,972; Dr. James M. Stokes, associate professor of clinical surgery, to continue the development of a technic to diagnose high blood pressure, $4,980; Dr. Edward Massie, associate professor of clinical medicine, and Dr. Thomas J. Walsh, assistant professor of clinical medicine, to continue the study of new technics in the diagnosis of abnormal cardiac rhythms, $5,000. Dr. Rolf Sanwald, research assistant in gerontology, is a St. Louis Heart Association Research Fellow in that department.

The American Heart Association grants were awarded Dr. Neal S. Bricker, associate professor of medicine, for $7,700 and Dr. J. Neal Middelkamp for $11,000, assistant professor of pediatrics. Fellowships totalling $27,000 were awarded to Dr. Bricker and Dr. Bernard Wortman, research assistant professor of ophthalmology, by the association.

The American Cancer Society has awarded grants to four Washington University School of Medicine staff members. The recipients are: Dr. Edmund V. Cowdry, research professor emeritus of anatomy, $6,623, to complete writing a book called "The Lives of Cancer Cells"; Dr. Falls B. Hershey, associate professor of clinical surgery, a supplementary grant of $2,164, bringing his total to $29,766, on a project on quantitative histochemistry of cancer and the effect of hormones on the enzymes of cancer of the breast; Dr. William J. Harrington, associate professor of medicine, $16,581, to continue his studies on host responses to leukemia and lymphomas; and Dr. Simon Karpatkin, American Cancer Society postdoctoral fellow in biological chemistry, in additional $1,000, to make a total of $16,000, for study and training.

Pediatric Research Center

A pediatric unit of the Clinical Research Center has been established by Washington University School of Medicine in St. Louis Children's Hospital. Patients will be studied with congenital heart defects, lead poisoning, cystic fibrosis and growth failure in the unit supported by the National Institutes of Health. Dr. David Kipnis, associate professor of medicine, is director of the center and Dr. John Herweg, associate professor of pediatrics, is assistant director.

Symposia to Be Held

A Symposium on Rheumatic Fever for members of the medical profession will be held Saturday, October 5, from 9:00 a.m. to 5:00 p.m. at the St. Louis Medical Society, 3839 Lindell Boulevard. The symposium will be sponsored by the

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Heart Disease Control Program. St. Louis Division of Health, Washington University School of Medicine and the St. Louis Heart Association.

Dr. Richard M. Krause, professor of epidemiology at Washington University School of Medicine, is chairman of the committee planning the symposium. Registration may be made with the St. Louis Heart Association.

Eight nationally known physicians will participate in the program. They are Dr. Frank Dixon, Scripps Clinic and Research Foundation; Dr. Albert Dorfman, Professor of Pediatrics, University of Chicago; Dr. Robert A. Good, Professor of Pediatrics, University of Minnesota; Dr. Melvin H. Kaplan, Associate Professor of Medicine, Western Reserve University; Dr. J. W. Kirklin, Mayo Clinic; Dr. Maclyn McCarty, Professor, Rockefeller Institute; Dr. Gene Stollerman, Professor of Medicine, Northwestern University, and Dr. Lewis W. Wannamaker, Professor of Pediatrics, University of Minnesota. The title of the program is "Recent Progress in Rheumatic Fever; Epidemiology, Management and Pathogenesis."

Travel Abroad

Thirteen Washington University School of Medicine faculty members took part in scientific meetings abroad this summer. Dr. Lauren V. Ackerman, professor of pathology and surgical pathology, attended a meeting of the Scientific Group on Histopathological Nomenclature and Classification of Bone Tumors conducted by the World Health Organization in Geneva. Dr. E. J. Anthony, Blanche F. Ittleson professor of child psychiatry, attended meetings of the World Federation of Mental Health in Amsterdam and the International Association of Psychoanalysis in Stockholm in July. He also went to Israel to participate in a series of conferences on child development as applied to the children reared in the Kibbutz.

Dr. Neal S. Bricker, associate professor of medicine, served as a section chairman of the 2nd International Congress of Nephrology in Prague. After the congress he was invited by the Polish government to present a series of lectures on the kidney before the Polish Academy of Sciences.

Dr. David H. Brown, professor of biological chemistry, and Dr. Barbara I. Brown, research assistant professor of biological chemistry, presented papers at the CIBA Symposium in London, then attended the 3rd International Meeting of the Biochemical Society, Oxford, England.

(Continued on page 969)

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They visited the University of Edinburgh, Scotland, and the University of Louvain, Belgium, before returning to St. Louis. Dr. Carl F. Cori, professor and head of the department of biological chemistry, also attended the CIBA symposium in London.

In Copenhagen, Dr. John Esben Kirk, associate professor of medicine and director of research in the division of gerontology, presented a paper entitled "Arteriosclerosis and Arterial Metabolism" and acted as section chairman at the 6th International Congress of Gerontology. Dr. J. Russell Little Jr., NIAID special fellow in microbiology, and Dr. Lisa Steiner, Helen Hay Whitney Foundation research fellow in microbiology, presented papers at the 2nd International Pharmacology meeting in Prague in late August.

At the 3rd International Congress of Chemotherapy, Stuttgart, Germany, Dr. Jack L. Strominger, professor of pharmacology and of microbiology, spoke on "Bacterial Cell Wall Synthesis and Its Inhibition by Antibiotics." Dr. Malcolm H. Stroud, assistant professor of otolaryngology, attended the First British Academic Conference in Otolaryngology in London and the International Vestibular Symposium in Uppsala, Sweden. Dr. Theodore E. Walsh, professor and head of the department of otolaryngology and current president of the American Otological Society, also attended the London meeting. Dr. Michel Ter-Pogossian, professor of radiophysics, took part in the 14th Astronautical Congress in Paris.

UNIVERSITY OF MISSOURI

IBM Computer to Be Installed

On December 15, after two years of preparation, an IBM 1410 Tape-Ramac computer system will be installed at the University of Missouri Medical Center. A staff of seven people will by then have completed the preparation and programming of information supplied by the hospital staff.

The reasoning behind the decision to install a computer in the Medical Center stems from the well-known fact that throughout the past years and in the future medical information amassed from medical research and clinical practice has reached such volume that it is no longer possible for the already extremely busy physician of today to keep abreast of the changes and advances in his own field of study. Through the application of the computer system there will be a constant availability of material to aid in medical diagnosis, coding and retrieving medical records

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and increasing the efficiency of the hospital administration.

The future objective of the computer system is to establish the Medical Center as a data collection agency with communication and contact with all hospitals and physicians in the state. This will aid the physician in comparing symptoms, treatment and diagnoses of various patients throughout the state.

New Intensive Treatment Center

The 120-bed intensive treatment center for mid-Missouri received approval in the state legislature and will be placed under construction sometime during the coming year. This center will be under the direction of Dr. William Anderson who will serve as the fiscal and medical head of the institution. The academic programs will be under the direction of the Department of Psychiatry and chairman of that department, Dr. James A. Weiss. This is one of two units in which the University of Missouri School of Medicine will take responsibility for psychiatric training, the second being an intensive treatment center which is under construction in Kansas City as a part of the Kansas City General Hospital.

Physical Therapy Curriculum to Be Added

The University of Missouri will begin a curriculum in physical therapy effective September 1963. The first two years will consist of general education requirements and the last two years professional courses with some elective time allowed. A clinical internship will be required during the summer after the senior year. Twelve students will begin the junior year in September 1963. This means the first class will graduate in 1965 with a B.S. degree in Physical Therapy granted through the College of Education. Mr. Raymond E. Hogue, B.S., M.A., R.P.T., is the Director of the Curriculum, and Lester E. Wolcott, M.D., is the Medical Director.

Grant Awarded

A grant of $22,980 has been given to the University by Vocational Rehabilitation Administration for the establishment of a rehabilitation training grant in physical therapy. Mr. Raymond Hogue is the project director. The grant money

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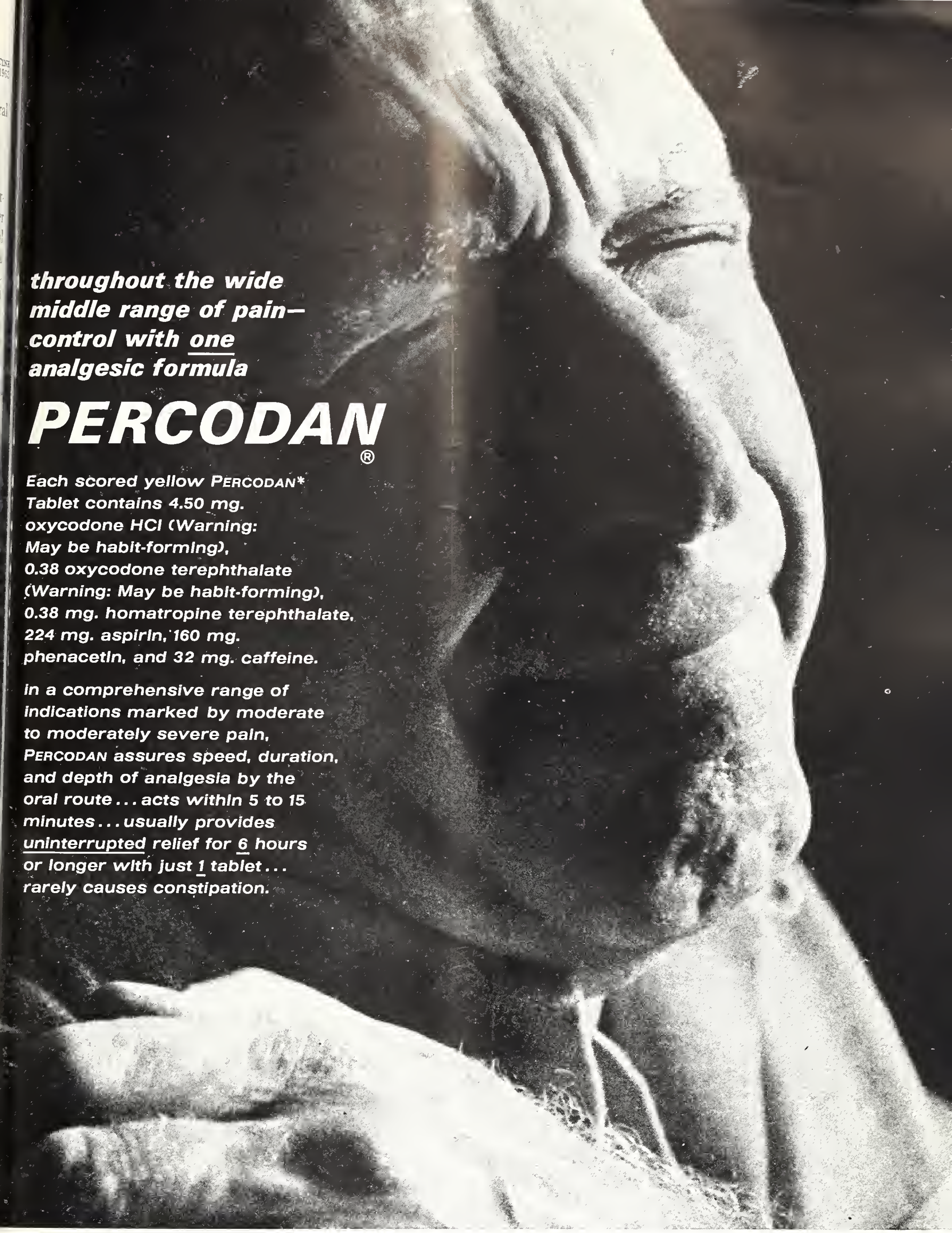

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Trips and Talks

Dr. Fernando Tapia visited the Child Psychiatry facilities of the University Hospital of the University of Washington in Seattle and interviewed the professional staff for the purpose of studying the use of their total facilities in their teaching program. An over-all view of their teaching approach was gained and some interesting aspects will be taken into consideration for the teaching program at the University of Missouri.

Dr. B. A. Westfall, Chairman of the Department of Physiology and Pharmacology; Dr. R. L. Russell, associate professor of pharmacology; Mr. O. Lynn Webb and Mr. Robert Metzger, N.I.H. predoctoral fellows; and Dr. Badi M. Boulos, graduate student, attended the fall meetings of the American Society for Pharmacology and Experimental Therapeutics, August 11 to 15, on the campus of the University of California at San Francisco.

Dr. D. K. Meyer, professor of physiology, attended the National Science Foundation Computer Course in Las Vegas, N. M., August 18 to 30.

Dr. W. S. Platner, professor of physiology; Mr. Terry Moore, graduate student, and Mr. Charles Robb, research assistant, attended the fall meetings of the American Physiological Society in Coral Gables, Fla., August 26 to 30.

Dr. M. L. Zatzman, associate professor of physiology, taught in the National Science Foundation Program for Exceptional Ability High School Students in Carbondale, Ill., July 22 to August 9.

Dr. Donald P. Durand, assistant professor of microbiology, attended one day of a symposium on Newcastle Disease Virus at the University of Wisconsin, July 16, in Madison. About 250 professional people attended the meeting.

Dr. John A. Buesseler, professor of surgery (ophthalmology), attended the Mid-West Regional Eye Banks meeting at the University of Indiana Medical Center on May 18 and 19. It was sponsored by the Mid-West Regional Eye Banks and approximately 40 eye bank representatives attended.

Drs. Hamtil, Spalding, Tanguay, Goldstein and de Pando of surgery (ophthalmology) attended the meetings of the Chicago Ophthalmological Society which was held in Chicago May 23 through 25.

Dr. Buesseler was the guest speaker at the

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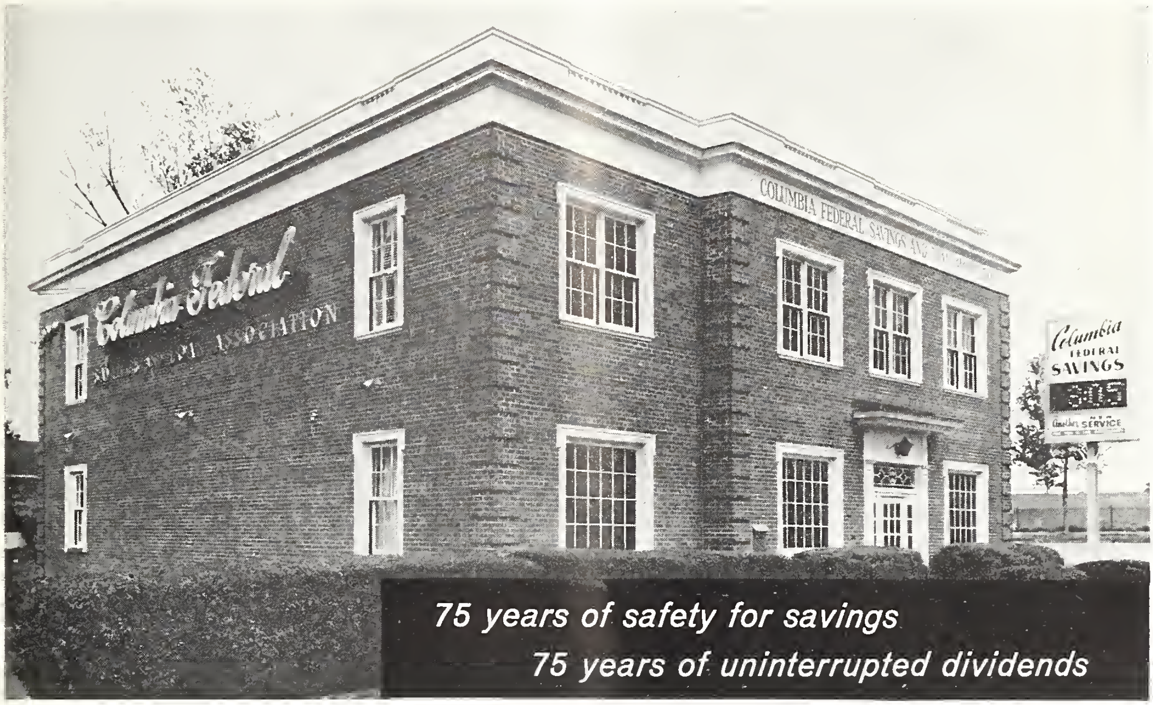
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Third Annual Schwitalla Symposium and addressed the candidates for master degrees in hospital administration on "The Orientation of New Physicians and the Continuing Education of the Medical Staff." Dr. Buesseler also attended the Francis Heed Adler Society meeting at the Hospital of the University of Pennsylvania in Philadelphia on June 14 through 16. The meeting was sponsored by the University of Pennsylvania and approximately 52 ophthalmologists attended.

Dr. James A. Green, associate professor of anatomy, was one of the invited guest speakers at the IV Mexican Congress for Obstetrics and Gynecologists held in Mexico City, Mexico, June 9 through 14. He addressed the scientific session of the Congress with a discussion of the fine structure studies of the human ovary being carried on at the University of Missouri Medical Center, entitled "Electron Microscopy of the Human Ovary." There were 36 invited guests from 23 different countries at the Congress. Approximately 900 attended the meeting.

Prof. James T. Barrett, associate professor of microbiology, has received a grant from the National Institute of Allergy and Infectious Disease for research abroad during his sabbatical leave of absence from Sept. 1, 1963, through Aug. 31, 1964. During the major part of the year Prof. Barrett will continue his research in immunology in the laboratories of Dr. O. Ouchterlony of the Department of Bacteriology, faculty of medicine at the University of Goteborg in Goteborg, Sweden.

Dr. H. S. Goldberg, professor of microbiology, gave a lecture on sanitary aspects of food and food handling to short course which was held for the school lunch program participants in the Memorial Student Union at the University of Missouri June 18.

Dr. Frank B. Engley Jr., professor of microbiology, attended the Chemical Specialties Manufacturers Association in Chicago and presented a paper on "Surface Sampling Procedures—A Review and Preview." He also presented a paper to the Southwest Milk and Food Sanitarians in Springfield, Mo., on "Disinfectants, Sanitizers and Sterilization." On May 16 Dr. Goldberg participated in a panel of postgraduate sessions on "Hypersensitivity and Auto Immune Disease"

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held at the Medical Center. On May 27 he visited the research labs and measles vaccine facility of Anchor Serum Company, St. Joseph, Mo., and later visited the new pharmacology research labs of Mallinckrodt Pharmaceutical and discussed the Mallinckrodt Microbiology Research Fellowship program in St. Louis, Mo.

Dr. Barrett participated in a panel of postgraduate sessions on “Hypersensitivity and Auto Immune Disease” held at the Medical Center.

Dr. D. P. Durand, assistant professor of microbiology, presented a lecture, “Virus Interference” to a class and a seminar of the Department of Microbiology at Southern Illinois University on May 20. About 30 professional people attended.

Dr. James M. A. Weiss, professor and chairman of the department of psychiatry, has been elected to two internationally known British medical societies, the Royal Society of Health and the Royal Medico-Psychological Association. Membership is limited to those of recognized achievement in some part of the fields of health and psychiatry, respectively. Dr. Weiss attended the annual meeting of the American Psychiatric Association. While there, he served as secretary of the Section of Geriatric Psychiatry, attended a meeting of the APA Committee on Aging, and attended a meeting of the Professors of Psychiatry in the United States. The meetings were held in St. Louis May 5 through May 11.

Dr. Fernando Tapia, associate professor of child psychiatry, was one of the three principal resources at the meeting sponsored by the St. Louis University Institute for Delinquency Control. The meeting was held at the St. Louis University on June 17 to June 21. Dr. Tapia gave a one hour talk which was followed by workshops. Several meetings were held to help shape the institute. About 44 probation and juvenile officers attended the meeting.

Dr. David G. Hall, associate professor of obstetrics and gynecology and chairman of the Department of Obstetrics and Gynecology, attended a meeting of the Association of Professor of Gynecology and Obstetrics held in Chicago May 24 to 26.

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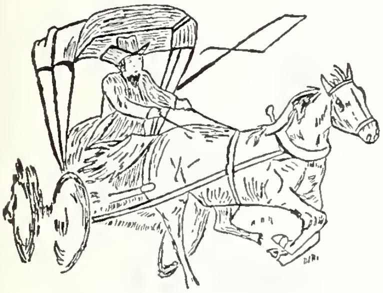
LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

St. Louis is to be a permanent airport, due to the efforts of the St. Louis Air Board who are spending $200,000 in equipping St. Louis Field and getting it ready for the International Air Races to be held there in October.

Governor Hyde has appointed the following as members of the new Nurses Board under the revised Nurses Law passed at the last session of the legislature: Miss Bella O'Neill of Mullanphy Hospital, St. Louis; Miss Louise Ament of the Lutheran Hospital, St. Louis; Miss Rose Hales, St. Joseph; and Miss Mary G. Bearman of Kansas City.

The counties of Cass, Bates, Henry, Johnson, Lafayette and Vernon have started a movement that gives promise of producing unusually interesting meetings from the fact that the societies in these counties will meet jointly for scientific work at stated intervals.

Mrs. Gorgas, the widow of former Surgeon General William Crawford Gorgas, whose conquest of yellow fever made the tropics habitable for the white race, is collaborating with Mr. Burton J. Hendrick, the author of "The Life and Letters of Walter H. Page," in preparing a biography of General Gorgas.

Dr. W. McKim Marriott, Chief of the Department of Pediatrics, Washington University Medical School, St. Louis, has been appointed dean to succeed Dr. Nathaniel Allison who resigned to become professor of orthopedic surgery in Harvard University Medical School with direction of orthopedic work in the Massachusetts General Hospital. Dr. Marriott graduated from Cornell University Medical School in 1910 and has won high distinction as a pediatrician and writer on diseases of children.

TWENTY-FIVE YEARS AGO

Kansas City invites every doctor to go to Kansas City October 3 and stay through October 6 for the Clinical Conference of the Kansas City Southwest Clinical Society. Every fall for fifteen years the Society has brought to the physicians of the Southwest a conference on clinical subjects.

The Federal Food, Drug and Cosmetic Act, passed by the 75th Congress, was approved by the President on June 25. This Act, like the Food and Drugs Act of 1906, is necessarily limited to interstate and foreign commerce and jurisdictions, as the District of Columbia, under federal control. The act forbids the introduction, or the delivery for introduction, into interstate or foreign commerce of any new drug, unless an application has been submitted to the Secretary of Agriculture and has become effective. Any drug that is not designated solely by a name recognized in the United States Pharmacopeia, the Homeopathis Pharmacopeia of the United States or the National Formulary, or in a supplement to one or the other of them, must be labeled to show its common or usual name, unless it is dispensed on the prescription of a physician.

The July issue of the *Journal of the South Carolina Medical Association* was dedicated to Dr. Edgar A. Hines, Seneca, South Carolina, in recognition of his many years of service in the South Carolina Medical Association. He has served as Delegate to the House of Delegates of the American Medical Association since 1910 with the exception of one year and has been a member of the state board of health since 1909.

The organization of the American Medico-Legal Association and the publication of a journal, *The American Journal of Medical Jurisprudence*, have recently been announced.

TEN YEARS AGO

Hosts at an open house honoring Dr. and Mrs. John G. Lapp, Kansas City, on the occasion of their sixtieth wedding anniversary recently, were Dr. and Mrs. Harry C. Lapp, the son and daughter-in-law of the honored couple.

James W. Allee, M.D., Columbia, along with his wife and two children, was the subject of a widespread air and ground search after they were presumed lost along the Osage Fork River. Their disappearance was solved when it was discovered that they had abandoned their float trip because of rain, and had spent the night in a Lebanon Tourist camp.

The only organized chapter of the American College of Surgeons in Missouri, the Southwest Missouri Chapter, held their charter presentation meeting in Joplin. Officers of the organization are Wilifred Post, M.D., Joplin; Durward Hall, M.D., and H. A. Lowe Sr., M.D., both of Springfield.

Frank R. Teachenor, M.D., Kansas City, dean of Kansas City neurosurgeons, was honored by the Jackson County Medical Society when he was presented a gold key and merit award at the annual installation of officers.

The Doctors Kelling of Waverly and their Clinic, are subjects of a two page feature article which appeared in the August issue of *The American Magazine*. The article reviews briefly the history of the clinic and its founder, Dr. George Kelling, who first settled in Waverly in 1903. His two sons, Dr. Douglas and Dr. Jordan Kelling, are associated with their father in the clinic.

ANNUAL CLINICAL CONFERENCE

Chicago Medical Society
March 2, 3, 4 and 5, 1964
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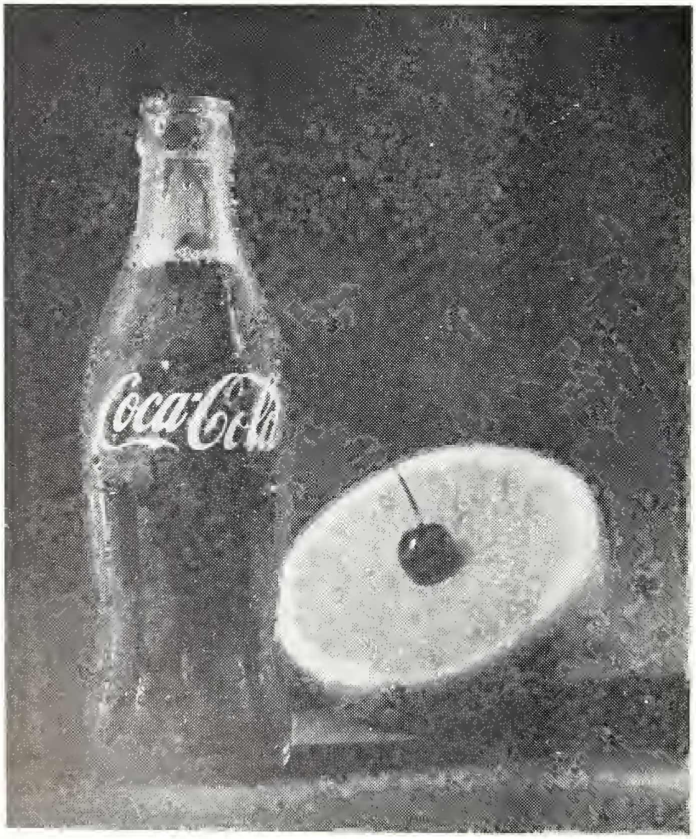
The CHICAGO MEDICAL SOCIETY ANNUAL CLINICAL CONFERENCE should be a MUST on the calendar of every physician. Plan now to attend and make your reservation at the Palmer House.



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In patients with impaired cardiac and renal function, there is the possibility of sodium and water retention. Liver function tests may reveal an increase in bromsulphalein retention, particularly in elderly patients. In such cases, therapy should be discontinued. Although it has been used in patients with cancer of the prostate, its mild androgenic activity is considered by some investigators to be a contraindication.

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Component Societies in Affiliation With the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	Warren C. Baker	Savannah
Audrain	5	Harry F. O'Brien	Mexico	Gordon Shaw	Mexico
Barton-Dade	8	Herbert M. Arnold	Lamar	T. W. Carroll	Lamar
Benton	6			James A. Logan	Warsaw
Boone	5	John T. Logue	Columbia	John H. Walters	Columbia
Buchanan	1	John R. McDaniel	St. Joseph	William Redmond	St. Joseph
Butler-Wayne-Ripley	10	John L. Wright	Poplar Bluff	C. Phil Cheatham	Poplar Bluff
Callaway	5	William Cremer	Fulton	Vernon B. Jackson	Fulton
Cape Girardeau	10	Wm. O. L. Seabaugh	Cape Girardeau	George E. Magaletta	Cape Girardeau
Carter-Shannon	9	H. D. Rollins	Winona		
Chariton-Macon-Monroe-Randolph	2	Josephine Baker	Moberly	J. Will Fleming Jr.	Moberly
Clay	1	Edward H. Fischer	N. Kansas City	John M. Williams	Liberty
Clinton	1	W. B. Spaulding	Plattsburg	J. P. Mabrey	Plattsburg
Cole	5	C. Stuart Exon	Jefferson City	James T. Leslie Jr.	Jefferson City
Cooper	5	M. L. Diekroeger	Boonville	D. Hata	Boonville
Dallas-Hickory-Polk	8	O. A. Griffin	Buffalo	Mary E. P. Griffin	Buffalo
Dunklin	10	Charles R. Cash	Kennett	E. L. Spence	Kennett
Franklin-Gasconade-Warren	4	James G. Shea	Gerald	Samuel C. Bonney	Washington
Grand River Medical Society (Caldwell-Livingston-Carroll-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb)	1	George Gary	Marceline	Jack L. Vinyard	Carrollton
Greene	8	Harry D. Silsby	Springfield	Guy D. Callaway Jr.	Springfield
Henry	6			R. S. Hollingsworth	Clinton
Howard	5	Wm. J. Shaw	Fayette	M. P. Leech	Fayette
Jackson	7	Gerald A. Miller	Kansas City	Edward H. Stratemeier	Kansas City
Jasper	8	M. Foster Whitten	Carthage	David O. Allen	Joplin
Jefferson	4	R. Bolgar	Festus	Frank L. Kozal	Crystal City
Johnson	6	M. Garza Gonzalez	Warrensburg	Charles M. Lederer	Warrensburg
Lafayette-Ray	6	George K. Davault	Richmond	Wayne Boydston	Odessa
Lewis-Clark-Scotland	2			L. Y. Davis	Canton
Lincoln-St. Charles	4	Robert Keller	Wentzville	Robert Fleming	St. Charles
Marion-Ralls-Shelby	2	Wyeth Hamlin	Hannibal	John H. Walterscheid	Hannibal
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede	9	B. J. Bass	Salem	M. K. Underwood	Rolla
Miller	5			C. T. Buehler	Eldon
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)	10	A. G. Karraker	Farmington	Charles W. Chastain	Farmington
Moniteau	5	K. S. Latham	California	L. M. Gallagher	California
Montgomery	5	E. J. T. Andersen	Montgomery City	Samuel J. Byland	Wellsville
Morgan	5	Jack Gunn	Versailles	J. Loren Washburn	Versailles
Nodaway-Holt-Atchison-Gentry-Worth	1	George Wempe	Maryville	Frank B. Matteson	Grant City
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	Paul E. Hilton	Kirksville	Edward M. Grim	Kirksville
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)	8	William J. Glass Jr.	Monett	Paul B. Anderson	Neosho
Pemiscot	10	James Grable	Portageville	James C. Strittmatter	Caruthersville
Perry	10	James F. Fairchild	Perryville	A. E. McDermott	Perryville
Pettis	6	D. R. Edwards	Sedalia	John C. Brazos	Smithton
Pike	2	W. Joe Martin	Louisiana	E. K. Jackson	Clarksville
Platte	1	H. Graham Parker	Platte City	H. C. Thurman	Parkville
St. Louis City	3	Charles S. Sherwin	St. Louis	James W. Owens Jr.	St. Louis
St. Louis County	4	Robert A. Mayer	Clayton	E. V. Cowdry Jr.	St. Louis
Saline	6	Richard F. Aiken	Marshall	C. A. McBurney	Slater
Semo County Medical Society (Stoddard-New Madrid-Mississippi-Scott)	10	John Dernoncourt	Charleston	Thelma C. Buckthorpe	Sikeston
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)	9	Joe Wall	Houston	Rollin H. Smith	West Plains
Webster	8	C. R. Macdonnell	Marshfield	E. G. Beers	Seymour
West Central Missouri Medical Society (Bates-Cass-Cedar-St. Clair-Vernon)	6	Edward S. Jones	Harrisonville	Carter W. Luter	Butler

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WASHINGTON

Tax Bill Clears House

The President's tax bill, as reported by the House Ways and Means Committee, passed the House on September 25 with two provisions of interest to medicine. The 1 per cent limitation on the deduction for drug expenses would not apply to amounts paid during the taxable year for medicine and drugs for (a) the care of a taxpayer and his spouse if either has attained age 65 or (b) the care of a dependent parent of either the taxpayer or his spouse if the dependent parent has attained the age of 65. The AMA testifying before the House Ways and Means Committee on Feb. 25, 1963, recommended the adoption of this amendment. The bill also provides that amounts received through accident or health insurance for a specific injury or disease which exceed the aggregate amount of medical expenses by a taxpayer for that injury or sickness would be considered as gross income.

Hearings on King-Anderson

On September 18, Rep. Wilbur Mills, Chairman of the House Ways and Means Committee, told the House Rules Committee that there would be no House action this year on H.R. 3920, the current King-Anderson bill. For several years King-Anderson type legislation has been held in committee. This year, however, supporters of the bill were hopeful of forcing the legislation out of Committee to the floor of the House. The Ways and Means Committee has spent virtually all of the current session on the President's tax proposals which have held highest legislative priority. It is felt, however, that the Mills' statement does not change the probability of Committee hearings and it was anticipated that they might be held before the session ends, probably in late October.

Congress Approves Health Appropriations

The House and Senate adopted, on September 26, the Conference Committee report on H.R. 5888, to provide appropriations for the Department of Health, Education and Welfare for the fiscal year ending June 30, 1964. The Hill-Burton program received $226,220,000.00. The National Institutes of Health appropriations were divided as follows: General Research, $163,869,000.00; Cancer Institute, $144,340,000.00; Mental Health, $183,288.00; Heart Institute, $132,404,000.00; Dental Research, $19,689.00; Arthritic and Metabolic Diseases, $13,679,000.00; Allergy and Infectious Disease, $68,723,000.00; Neurology and Blindness, $87,675,000.00.

Nursing Home Care for Veterans

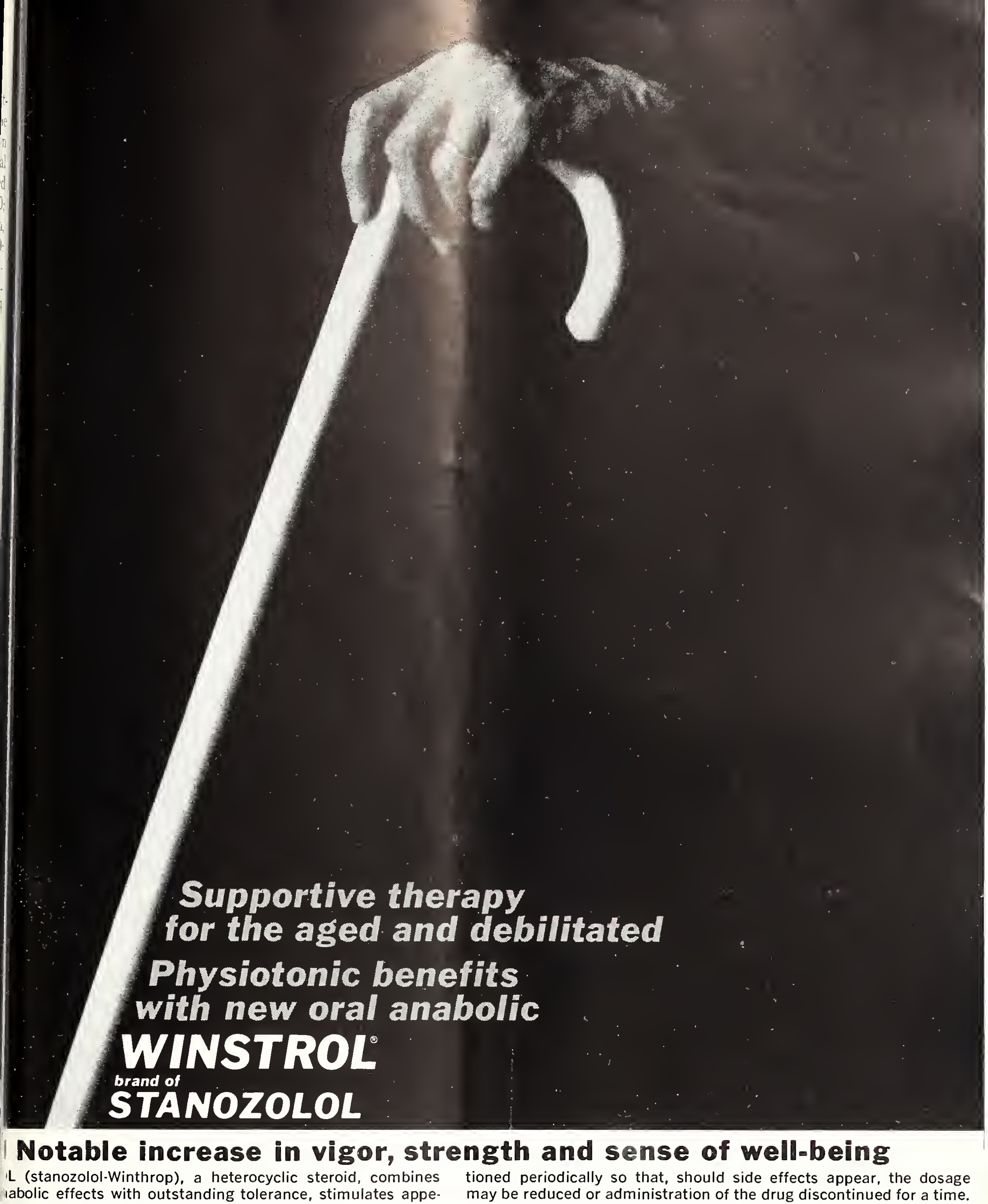
On September 17, by a voice vote, the House passed H.R. 8009, Nursing Home Care for Veterans. The measure would (1) authorize up to 2,000 additional beds for nursing home care, (2) authorize certain transfers of veterans from VA hospitals to public or private institutions which furnish nursing home care, (3) increase VA allowances to state homes from $2.50 to $3.00 per day, and (4) authorize appropriations for a $5 million matching grant program for construction of state home facilities for nursing home care.

Keogh Law Regulations Published

The *Federal Register* in the September 17 issue published regulations implementing the Keogh law. Notice of the regulations, developed as a result of the passage of the Self-Employed Individuals Tax Retirement Act of 1963, H.R. 10, was first given on April 6, 1963. As published in the *Federal Register* they constitute almost the entire package of regulations on the subject adopted by the Internal Revenue Service. Copies of the *Federal Register* may be obtained through the Superintendent of Documents, Government Printing Office, Washington, D. C.

Mental Retardation Bill Hits Snag

The House passed S. 1576, Mental Retardation Facilities and Community Mental Health Centers, having deleted the staffing provisions. The Senate disagreed with the House amendments and appointed conferees to the Conference Committee which will attempt to resolve the differences between the Senate and House passed versions.



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Across
Missouri

Kerr-Mills in Missouri

The recommendations of a special interim committee of the Missouri legislature became the basis of bills passed by the Missouri General Assembly of this year, further implementing the Kerr-Mills Law in Missouri, S.B. 140 and S.B. 148.

The Missouri State Medical Association favored and worked for the passage of this legislation. It was the result of an intensive year and a half long study of the problem by 10 state legislators, and presented a program tailor-made to the needs of Missouri's elderly.

The first of the two programs, S.B. 140, which has been signed into law by the Governor, provides increased aid for health and hospital expenses for persons receiving Old Age Assistance. The second bill, S.B. 148, while passed by both houses of the General Assembly, was vetoed by the Governor after the close of the session. It would have established a program of health care assistance for the "near-needy" aged—persons who are not eligible for OAA, who have adequate financial resources for normal expenses, but whose income and resources are insufficient to meet the costs of serious or prolonged illness. According to published reports, the Governor's veto was based principally on the uncertainty of the cost of the program rather than its desirability or expense. He was quoted as saying, "I feel that in the future if it is possible to get accurate information as to how much such a program will cost, then it should be given consideration."

Recipients of public assistance are now provided benefits for inpatient hospital care for serious illness or injury for which outpatient care will not suffice; the condition need not be, as formerly, a "medical emergency" or an "acute serious illness." Monthly payments to those requiring care in a nursing home have been raised to a maximum of $80, and payments to completely bedfast and totally disabled welfare recipients have been raised to a maximum of $110 a month. For the first time, Missouri will provide benefits for dental expenses, drugs and medicines —the dental care to be authorized by the Department of Public Health and Welfare and provided by a licensed dentist, and drugs and medicine also to be authorized by the Department of Public Health and Welfare and prescribed by a licensed physician, osteopath or dentist. The legislature authorized $4,322,320 in state funds to implement this program for the 1963-1965 biennium. Under Kerr-Mills provisions, this will be matched by $6,322,000 in Federal funds.

Under the provisions of the proposed programs for the near-needy, aid would have been provided for inpatient hospital care for serious illness or injury, as well as for drugs prescribed by the attending physician for a period of up to 30 days after the patient's release from a hospital.

The Kerr-Mills program helps those elderly persons who really need assistance, indicated by the close relationship between the findings of the interim committee of the state legislature and the statutes that body passed. The Missouri Assembly found out what kind of medical care program was needed—and promptly enacted it.

It is important to note the increasing number of persons aged 65 and over who are being covered by private health insurance plans. Nationally, 53 per cent of the elderly not in institutions had such protection at the close of 1961—an increase of 132 per cent over a 10 year period.

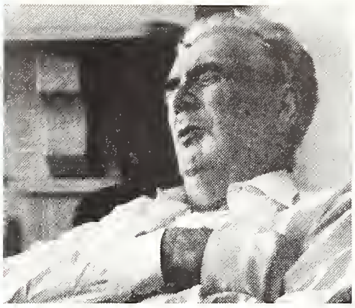
Private Insurance

In the private realm, the nonprofit Blue Shield and Blue Cross Plans of St. Louis and Kansas City recently introduced special medical surgical and hospital protection plans for persons aged 65 and over to supplement the coverage they have long offered Missouri citizens without regard to age.

The St. Louis and Kansas City Blue Shield programs for persons over 65 are modeled on the program developed jointly by the American Medical Association and the National Association of Blue Shield Plans. Both programs include paid-in-full benefits for members with limited incomes, and, as of June 30, a total of 9,000 persons were enrolled in the two Senior Citizen Programs. Including these special "senior" programs, a total of more than 75,000 Missourians aged 65 and over are now enrolled in various non-group medical-surgical protection plans of the two Blue Shield Plans.

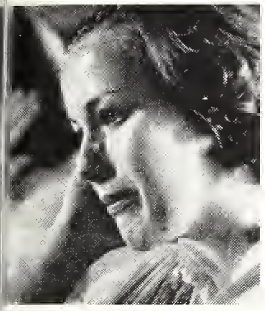
he insomniac

The tense, nervous patient



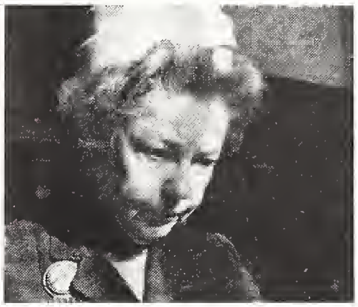
The heart-disease patient

The surgical patient

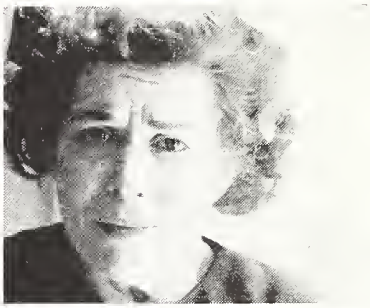


h girl with dermatosis

Tension headache

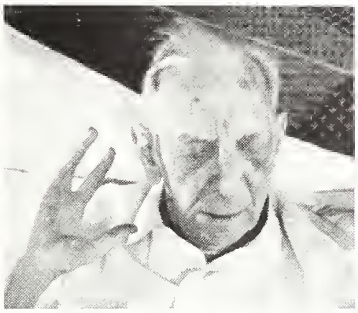


The woman in menopause



Anxious depression

menstrual tension



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Missouri Academy of General Practice

The State Officers Conference of the American Academy of General Practice was held at the Muehlebach Hotel, in Kansas City, Missouri, Saturday and Sunday, September 21 and 22. This was a well attended, well organized and well rounded session.

The meeting was set up on a football format with Saturday's sessions constituting the first half of the game, and the second half "played" on Sunday morning. Doctors Smith, Weber and Marshall who presided were appropriately dressed in football uniforms, and the referee and timekeeper were dressed in the traditional striped shirts and white pants, and threw out a handkerchief as a one minute warning and fired a pistol when time was up for any speaker. An innovation which might enhance any football game were young ladies, dressed in striped blouses and white skirts, that were, I suppose, acting as linesmen or probably more appropriately—lines women.

The Missouri Academy was well represented —as Bill Shaw, Lois Wyatt, Glenn Elliott, Bill Allen, Barney Finkel, Walt Gunn, Ray Pearse, Ed Carrie, Cecil Leitch, R. Becker and "Casey" Casebolt were seen at the sessions.

The highlight of the Saturday morning session, or the first quarter of the game, was the speech made by Robert Voy, president of the Student American Medical Association. He emphasized four points that medical students felt would encourage students to select general practice as a career: (1) A G.P. should be on the medical school and hospital staff as a G.P. and not as a specialist. (2) Practical preceptorships of at least two months duration and with an adequate stipend so if the preceptorship is offered as is frequently done during the summer months the preceptee would not feel he would lose income that he normally would feel he must necessarily earn to continue school the following fall. (A survey of the S.M.A. members showed 96 per cent wanted a preceptorship.) (3) A graduate program of some type that would lead to a board rating. (4) Certification, in that 56 per cent of the students felt that Board Certification in General Practice was important.

Dr. Sappenton reported that the Academy sponsored Conference on Graduate Education suggested a two year graduate training program for general practice, divided into four areas: (1) medicine including pediatrics and psychiatry, (2) surgery, (3) obstetrics and gynecology and (4) orthopedics.

A report on the activity in Project MORE was made by Dr. Howalewski, and it seems there has been considerable activity in many areas. He mentioned that the film "I Am a Doctor" could be obtained through the AMA and that the Academy was preparing a film on the same subject which will be released soon.

The "2nd quarter" or afternoon session consisted of reports of the various commissions and cannot be covered adequately here—so read them in the *G.P.*

Half time activities were held Saturday night with a "Pep Rally" in the Colonial Ballroom that really was peppy, followed by the Training Table and Victory Party in the Terrace Grill—and from all indications—"Our Team Won."

The second half started on time Sunday morning with practically a full house in spite of the Victory Celebration the night before.

This was an interesting session on Practical Politics with some excellent speakers carrying the ball, Hon. James D. Weaver, an M.D. and a member of Congress from Pennsylvania spoke on "Current Legislative Trends in Washington"; Mr. Oliver E. Ebel, Executive Secretary of the Kansas Medical Society, talked on the "Do's and Don'ts of Organizing a State Legislative Campaign"; Dr. H. E. Shuffield from Arkansas presented a novel plan of working with state legislatures, and Hon. Eugene J. Keogh, New York, spoke on "Self Employed Retirement Programs," particulary the Keogh Law which he sponsored. All these provoked considerable discussion from the floor.

Just a few highlights on this session:

Dr. Weaver presented one of the most concise and comprehensive reports on current national legislation that your reporter has ever heard. Dr. Weaver stated that physicians should show more interest in legislation other than that which personally involved their own profession and that if their representative only had letters from them when medical interests were at stake

(Continued on page 1026)

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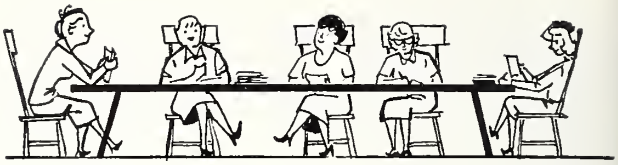
Woman's Auxiliary



Many organizations, including ours, have rubber stamps to mark their mail with a particular theme or idea. Now, thanks to the thoughtfulness of Gloria Leslie, President of Cole County, I am able to mark all of my mail with the National theme for the year "Serve And Communicate."

Mrs. L. S. Crispell

The Cole County visit was one of several that I have made recently to be with auxiliaries for their opening meeting of the year. First to Cape Girardeau, then to Perry County and on to Farmington for a meeting with the Mineral Area Auxiliary. Next to Jefferson City and now I have just returned from a visit with the Lafayette-Ray Auxiliary. The groups vary in size and interests but my contacts with them at these times give me some insight on their individual projects and problems. Everywhere I go, I meet old friends and make new ones. I am greatly impressed by the warmth and charm of these women and deeply grateful for their generous hospitality. The necessary arrangements require planning for them and for me but the results make my trips quite worthwhile.

One of the most rewarding projects in our program is the "Medical Self-Help" Course. It originated in Civil Defense but crosses other lines such as Program, Community Service, Rural Health and Safety. Members of the Lafayette-Ray Auxiliary have been particularly active in this area: Katherine Boydston of Odessa taught a class and interested the school in giving it; Ruth and Jordan Kelling taught two adult classes in Waverly, sponsored one more in the hospital and are getting another class started; but the blue ribbon really goes to Macy Brady for outstanding achievement. She has taught three classes herself and gotten four others started—one taught by Esther Johnson, another Auxiliary member. This year, the high school in Concordia will give the Medical Self-Help Course during Physical Education hour and there will also be a night course for adults. Isn't this an impressive record?

It would seem now that the King-Anderson Bill will not come out of the House Ways and Means Committee this year but this does not mean that we do not have to worry. The Administration will just put the heat on a little later to promote support in an election year. This year, it is expected that more than 50,000 high school students will be debating on the subject "What Should Be the Role of the Federal Government in Providing Medical Care to the Citizens of the United States?" The AMA has provided a special collection of folders with information for the schools to use in connection with the debates. To me, this has one special advantage—thousands of people besides doctors and their wives will be reading and discussing this issue. These materials are available through the MSMA headquarters office.

"The Legislative Digest" published by the Missouri Council of Churches suggests that this is an ideal time to begin to study and appraise the background, character and qualifications of candidates for the legislature and senate so that next year when the primaries come along, we will know all about the people who are to represent us. Within the next week, Greene and Jackson County Medical societies will be presenting a political education course "The Barnstormer" to their members and their wives. It is a combination film and lecture course designed to instruct physicians and their wives in the ways of successful politics and to help them understand the gravity of political problems facing our profession.

Our chairmen are getting information now to relay to our auxiliaries on various ideas for programming. Marjorie Peterson, North Central Regional Chairman of Program for National, makes two good suggestions in her letter. In every letter, the ideas encompass more than one area that the Auxiliary is interested in and definitely fit our "Serve And Communicate" theme.

Later this week, I will go to Springfield for a Greene County coffee for new members and the following week, I will visit Kansas City. That will be the last of the trips until November since I will be in Chicago for the National Fall Conference, October 6 to 9, and when I return there will be the final planning for our own Fall Conference. Next month my report will be on these two meetings.

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MATT H. BACKER JR., M.D., *St. Louis*

Irregular Menses: A Simple Treatment

A simple treatment of irregular menses using one shot of progesterone per month is described.

Dr. Backer is assistant professor in the Department of Obstetrics and Gynecology, St. Louis University School of Medicine.

Women with irregular periods usually seek help for one of three reasons: (1) to avoid pregnancy, (2) to achieve pregnancy, or (3) for relief of excessive bleeding. To determine what is "regular," the features of normal menstruation[5] should be cited, namely: onset from 11 to 14 years, interval 23 to 31 days, duration three to seven days and volume, 55 to 75 cc.; finally, *normal cycles ovular.* While the menstrual interval is the patient's index of "regularity," ovulation is actually the pivotal feature of normal menstruation, and approximately 90 per cent[7] of irregular cycles are due to ovular failure or delay. The object of this article is to outline a simple way to treat irregular ovulation, and to cause the patient with this dysfunction to exhibit a menstrual flow at approximately monthly intervals.

Failure of ovulation results in failure of formation of the corpus luteum. Corpus luteum failure results in a cycle without progesterone. In normal cycles, in addition to preparing the endometrium for nidation, progesterone "ripens," dates, or ages the endometrium, and progesterone withdrawal results in the thorough deciduation or slough of the functional portion of the endometrium, which attends normal menstruation. Menses in most dysfunctional patients, occur from an endometrium influenced by estrogen alone, and the slough produced and the attendant flow vary inversely with the estrogen level alone. The ripening effect of progesterone is lost, bleeding occurs from estrogen withdrawal alone, and this bleeding is rarely cyclic, frequently prolonged, and often menorrhagic.

Thus it follows logically that the patient who has estrogen alone needs progesterone. When she fails to ovulate, or ovulation is delayed, she lacks a corpus luteum and has a progesterone deficiency in the second half of that particular cycle.

Experiments on castrate women with uteri retained, indicate that progesterone alone produces no bleeding after its withdrawal. After estrogen priming however, if progesterone is given and then withdrawn, it will ripen and slough the endometrium each time it is given,[12] producing a menstrual flow indistinguishable from normal menstruation; this phenomenon is referred to as a "medical curettage."[1] From the foregoing it may be assumed that the dysfunctionally anovular patient needs progesterone to deciduate physiologically. It also follows, however, that she needs it only in cycles in which she does not ovulate.

With these facts in mind, for the past five years and more, my irregular patients and I have used a simple scheme to make them menstruate regularly by giving them progesterone intramuscularly only in the months it is needed. Before proceeding let me stress that this management is useful only for dysfunctional irregularities, and should be applied after local pathology is ruled out. Complications of pregnancy and malignancy of the genital tract are respectively the most common and the most important causes of irregular bleeding in the differential diagnosis. If one can rule out these two important categories of disease, he may proceed with the treatment outlined, searching for and correcting the less common causes of irregular cycles as treatment progresses.

The "irregular" patient records her basal temperature orally each morning from the day after the menses stop until the 20th cycle day. This is to determine whether or not ovulation occurs in this given cycle. In my experience, like that of others,[8] the basal temperature has proven the most practical method of ovulation timing for most patients.

If the patient observes a typical, sustained (ovular) rise in her basal temperature (fig. 1) prior to the 20th day, she knows that she will menstruate approximately 14 days after the rise. She also knows that the rise approximates the occurrence of ovulation, and that if she abstains from intercourse until three days after the initial rise, pregnancy will not occur in that cycle. Having ovulated and produced a corpus luteum, she will also produce progesterone in this given cycle, and no exogenous progesterone will be required to make her have a normal period.

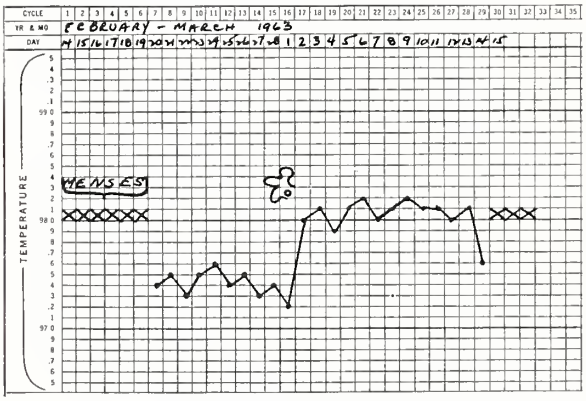

Fig. 1. This chart shows ovulation on the sixteenth day with corpus luteum formation and a subsequent sustained temperature rise due to the patient's own progesterone.

If no rise occurs by the 20th cycle day (fig. 2), that is, if ovulation fails or is delayed, she reports to the office on the 21st or 22nd day and receives an injection of progesterone. Progesterone in oil, 2 cc. (50 mgs. per cc.), is given deep intramuscularly, and in five to seven days a menstrual period ensues. After the period she again records basal temperatures, continuing again till the 20th cycle day. Again, if the temperature rises (if she ovulates), she does not come to the office; if it fails to rise, she comes in for her shot on the 21st or 22nd day. It should be stated that the treatment of anovular menses with single-shot progesterone therapy has been proven effective by others.[4]

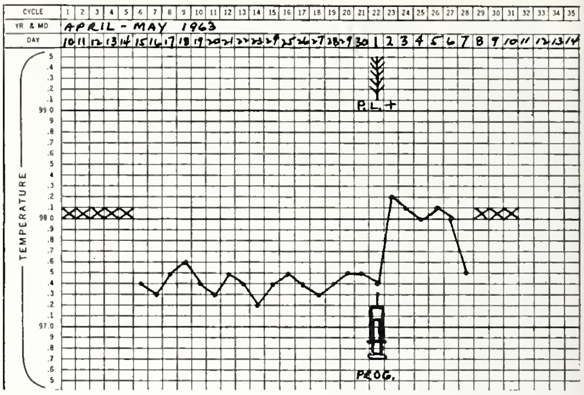

Fig. 2. This chart shows no ovulation by the 20th day and the dried cervical mucous "ferns" on the 22nd day; progesterone is given intramuscularly.

The cyclic production of menses by this method (or cyclic medical curettage if you prefer to call it that) is not only cyclic therapy but also effective psychotherapy. Many women who go months on end without having a period, not only live in the fear of pregnancy, but consider themselves "less of a woman" for this fact. Some express the fear that their "organs are all dried up," or that they will never conceive. While the latter is true in the patient who never ovulates, the former, of course, need not be true in any female with an endometrium.

Those patients who always have long intervals between menses, a large group, need only record basal temperatures from the 10th to the 20th days. This makes the method less onerous, of course, and thus more apt to be followed.

This simple treatment will obviously not work in all cases of irregular menstruation, but it will in from 85 to 90 per cent. Some dysfunctional bleeders ovulate but the corpus luteum is inadequate to continue the production of progesterone throughout the second half of the cycle. These can be diagnosed by a shortened elevated phase on the basal temperature chart,[9] or by a rapidly falling curve. Their luteal phase can also be shored-up with progesterone, but it must be given earlier than the 20th day, and a longer-acting agent like 17-alpha hydroxy-progesterone caproate, 250 mgs., intramuscularly, is preferable. In other irregular patients who also ovulate, luteal function persists into the next cycle, producing the syndrome of irregular shedding of the endometrium. These patients will be found to start menstruating while the basal body temperature is still up.[9] After pregnancy is ruled out, these patients require heavy-dose cyclic estrogen therapy for reversion, and often surgical curettage.

Abnormal thyroid or adrenal function not infrequently cause irregular menses, again usually through interference with the ovular mechanism. If the patient has sufficient endogenous estrogen however, she will menstruate after progesterone is administered as described before, and the thyroid and adrenal function can be investigated as indicated. As a rule, I do not order a battery of expensive laboratory tests on these patients on the first office visit; patients object to this and often do not return, thus deriving no benefit from treatment at all. If one produces a progesterone period however, the patient's confidence is secured and she will cooperate in further investigation.

On the first visit complete physical and pelvic examinations should, of course, be done. Papanicolaou smears are made and the pathologist is asked to report the maturation (cornification) index. This tells how much estrogen the patient is producing, and if taken in the second half of the cycle, whether she has ovulated this particular month. If she is pale, a finger-stick hemoglobin determination is done.

On return visits, if the skin or hair is dry, or the pulse slow or fast, a PBI determination is done. If the patient is hirsute, a 24-hour urine sample is collected for a 17-ketosteroid determination. If any of the above tests are abnormal, appropriate specific treatment is initiated, instead or along with the cyclic progesterone. Pelvic examination is repeated as frequently as appropriate, varying with the certainty of the diagnosis and the desiderata of treatment in each case.

Cyclic progesterone is not, I repeat, total diagnosis and treatment of all irregular menses, but it accomplishes considerable of each. From the diagnostic standpoint, withdrawal bleeding following progesterone yields the following information: (1) the patient has a functional endometrium, (2) the endometrium was primed by estrogen, (3) the patient has an ovary which produced estrogen, (4) she has sufficient pituitary gonadotrophic hormone to stimulate the ovary to produce estrogen, and (5) she is not, at the moment, pregnant.

From a treatment standpoint, in addition to producing a period each month, this treatment will not hide cancer, nor will it harm a threatened abortion; in fact, in the latter case it may be of benefit. A single office visit is simpler for many patients than keeping oral medications straight. Office visits also afford ample opportunity for reappraisal and investigation, and not the least, for psychotherapy. Chronic cases need not be seen by the doctor each time, nor need they be charged for anything except the shot. The advantages to patients attempting to practice rhythm are: (1) it shortens the period of abstinence in patients who would otherwise have abnormally long cycles, (2) it does not suppress normal ovulation but as cyclic therapy favors its occurrence at a normal time, and (3) since one is treating irregular ovulation and progesterone deficiency no moral problem is involved.

From a prognostic standpoint, reference to my experience and that of others[4] indicates that this simple method compares favorably with others in effecting reversion to regular cycles in patients who eventually straighten out. Which number will revert to spontaneous cyclic menses depends more upon the duration of the dysrhythmia than upon any other factor. Women who have been irregular all their lives rarely develop a spontaneous 28 day cyclic pattern after any steroid therapy or even after pregnancy.

Many patients defect from the treatment program even though they do not become regular. Usually this is because they no longer care whether or not they become pregnant, have despaired of getting pregnant, no longer bleed too heavily, or accept the fact that they do not have to menstruate every four weks to be a healthy adult female. Some just get tired of taking temperatures. Many come in for several months, disappear for a year, and then return again for "regulating."

For those who cannot or will not record basal temperatures, a monthly office visit on the 22nd day of the cycle is necessary. A cervical mucous test[10, 11] (palm leaf or fern leaf test), is done on these patients, by dipping a dry cotton swab into the cervical mucus, rolling it out on a clean glass slide and allowing it to dry. If the dried mucus displays a fern-like crystal under the low power microscope objective, indicating estrogen dominance, progesterone is given; if the fern pattern is absent, suggesting ovulation, progesterone is withheld. The disadavntage of this program is that while she need not take temperatures, the patient must come in and be examined each and every month; by taking temperatures, she need only report in the months in which the temperature fails to rise.

In my experience like that of others,[3] psychogenic factors play a major role in the genesis of dysrhythmic menses, particularly in patients who were previously regular. In these the prognosis for reversion to regularity is quite good, and along with the progesterone I frequently treat these patients with reassurance and tranquilizers. Nutritional deficiences and irregular menses are common companions. Patients on crash diets, young girls who smoke much and eat little, malnourished obese patients and models are prominent in this group. Many obese patients revert to regular cycles after weight reduction alone. I emphasize a good diet for all patients with irregular cycles, recognizing the need to supply essential building blocks for hormone synthesis, and the need to support the liver, the chief metabolic organ of the gonadal steroids. Anemic patients are given hematinics, usually ferrous sulfate.

The utility of this treatment program in private practice may be assessed from the fact that, in any given calendar month, from 10 to 20 such patients report to the office for progesterone. In selected patients oral progestational agents are substituted for "the shot" and the patient takes these in the months in which she sees from her temperature curve that she has not ovulated. If her temperature fails to rise by the 20th day these agents can be prescribed[2, 6] as follows: Dydrogesterone, Norethynodrel, Norethindrone or Medroxyprogesterone, 10 mgs. per day for eight days, after which a period will ensue. Dydrogesterone has three advantages,[2] (1) that it completely lacks androgenicity, should pregnancy occur during its use, and (2) it will not inhibit ovulation which might occur later in the cycle, obviating any possible moral objection and (3) it has no anabolic effects. Its endometrial effect, however, is less profound, milligram for milligram, than the others mentioned. I use the oral method selectively because it detracts materially from the doctor's ability to control the therapy, it has much less psychotherapeutic value than the shot, and at this time, the cost of the tablets is higher than the cost of the shot in the months in which examination is not required.

Summary

A simple treatment of irregular menses using one shot of progesterone per month is described. It consists essentially in the patient's observing her basal body temperature from after her period to the 20th day of each cycle, and the administration of 100 mgs. of progesterone in oil on the 21st day, whenever the temperature fails to show an ovular rise. Differential diagnosis, and the investigation and treatment of other factors essential to normal menstruation is urged, during the course of this treatment. Effectiveness of the method is limited by patient cooperation, but compares favorably with other methods for cyclic therapy, for assisting patients to avoid pregnancy by the rhythm method, and for controlling the menorrhagia of anovular cycles.

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MARVIN E. PERKINS, M.D., *New York, N. Y.*

Meeting the Needs of the Mentally Ill In the Community

Through a Community Mental Health Services Act

REVOLUTION IN PATIENT CARE

REVOLUTION, defined as an internal matter when it affects a government, cannot be viewed as of little consequence by adjoining nations. The political equation between countries is most likely to be thrown out of balance by changes wrought in the fire of revolution. Effects of the revolution next door are indeed felt by adjacent governments.

The same phenomenon seems appropriate for describing what has been taking place within the walls of the mental hospital during the last decade. Like the other, this revolution in the care of the mentally ill will not be confined intramurally. To carry the figure further, the states, long the holders of a monopoly in chronic care of the mentally ill, have a therapeutic revolution on their hands.

The consequences of this welcomed revolt are already affecting the neighboring governments, which in the analogy are the local communities. I will consider here what must be done at the community level to avail themselves of the new hope which has been inspired by the advent of tranquilizer drugs, the open hospital and milieu therapy.

CHANGING VIEWS AND SENTIMENTS

Not since the days of Pinel and Tuke has such an awakening of hope for the mentally ill stirred in the minds and hearts of people as one finds today.

When admission for mental illness today is required, consignment to what have been described as "human warehouses" is no longer necessary. No longer is admission to a mental hospital viewed as the equivalent of an indeterminate sentence to custodial care. No more is it necessary for the patient to see the hospital as jail or hospital personnel as jailers. And no longer does the patient need to ruminate obsessively about the unknown crime, the perpetration of which evidently has brought about his incarceration.

As we formerly were disgusted by the practice of exhibiting the insane for an admission fee, we are now stricken by the realization that by imposing only custody we may have engendered more disability in patients than was produced by the mental illness which brought on hospitalization. We are asking, have we, in the bondage of institutional care, so restrained the afflicted mentally ill that recovery from the psychosis was impeded? Worse, have we produced a secondary illness by the alienating process of remote custodial care? Our hope is tinctured by the bitter guilt of our neglect.

The handling of mental health facilities in New York City and in the State of New York are described, based on the National Mental Health Act of 1946 and the New York State Community Mental Health Act of 1954.

Dr. Perkins is Commissioner of Mental Health Services of New York City. This paper was presented at the meeting of the National Association for Mental Health, St. Louis, Nov. 15, 1962.

TASKS AHEAD

Reality, too, restricts the celebration we would like to make. The sounds of revolution may have penetrated into all states and all long term hospital systems. However, the implements of the revolutionary process undoubtedly have yet to be applied in many of these situations. If the impulse for change can be resisted—if the revolt is put down—state-local equilibrium need not be disturbed by changing concepts of responsibility for the care and treatment of the mentally ill. The dreary, old process will be continued of sending away one's sick family members and friends to remote asylums for indefinite periods. One of the tasks, then, is to give aid to this revolution in our respective states. This is no more than half the battle, however.

A companion task is visualized of crucial importance in order to begin to achieve some victories. The purpose of hospitalization is healing; the point of recovery is return to productive living in the home. The therapeutic advantage gained by the patient in the hospital will be lost if needed services are not available during the period of convalescence, after-care or rehabilitation. The second task then is to plan facilities and provide services which will sustain the patient upon his return to home and community.

Strategic Importance of Community Services

One sees the strategic importance of community services in helping the mental hospital toward optimum effectiveness. If illness can become a way of life, recovery can be the point of conversion to renewed living. Community services must be readily available in order to sustain recovery and forestall relapse. Happily, a new era in community mental health services was inaugurated at about the same time that application of psychopharmacologic treatment was beginning to be instituted.

The New Era

The story of the "new era of community mental health" really begins with the National Mental Health Act of 1946. There is no need to relate to this group that this Act has had a tremendous impact upon local services. One only has to observe that the requirement of matching state expenditure for such services in order to receive federal aid has now reached the point where $6 million in federal funds is more than "matched" by outlays in the states of $85 million.

Paul V. Lemkau[1] has pointed out that in New York, as in other states, grants under the National Mental Health Act of 1946 soon demonstrated a substantially greater need for extramural mental health work than could be supported under the relatively small federal aid to states. He indicates that distribution of these funds from the state level to meet the needs of local communities was extremely difficult. At the same time, he observes, clinics established in connection with state hospitals and traveling child guidance clinics, under direction of the state, had not resulted in a satisfactory pattern of services for local purposes.

To study the problem of local service in New York State, the Commissioner of Mental Hygiene was appointed chairman of a special commission which began work in 1949. The ensuing period of study by the Commission staff resulted finally in the New York State Community Mental Health Act of 1954.[2] The background of the pioneering law has been described in some detail in the periodical literature.[3, 4] The study found psychiatric service at community level either to be totally lacking or, at best, insufficient. Where services were present coordination between them was insignificant. There was a great demand for outpatient services and need for expansion of inpatient services in general hospitals. No local governmental agency existed for central coordination, supervision and planning. Funds available through the state for mental health work, limited as they were, came by way of several state agencies without much attention to long range local community planning.

As a result of the Commission study, three clear principles were envisioned to be incorporated into law: (1) to develop sound community mental health programs, there must be created a single local governmental agency in each community to act as the central responsible body; (2) to finance the expenses of community mental health services, local governments would need sustained financial aid from the state; and (3) to assure appropriate expenditure of state funds, state aid should be administered by the State Department of Mental Hygiene through the newly created local governmental agency.

The principles embodied in the act have served as a model for other states. In the following eight years, at least twelve more states have enacted community mental health legislation. Although the acts are by no means uniform in their provisions, two important characteristics are generally held in common: an emphasis upon local governmental responsibility and control, and a provision for continuing state fiscal support.[5]

Local Responsibility

Designed "to encourage the development of preventive, rehabilitative and treatment services through new community mental health programs and the improvement and expansion of existing community services," the state act provided for financial aid to communities establishing mental health boards. To avail itself of the benefits of the act, the City of New York enacted the local law which established the New York City Community Mental Health Board.[6] Thus was created an instrument of local government to act as the central coordinating, supervising and planning body. The particular board which serves as the model for this discussion is that which has operated in the City of New York since December 1, 1954. On that date the City charter was amended to establish the Board, making it the responsible agency in mental health services for the city government.[7]

Local responsibility has become renascent through the aegis of community mental health boards throughout much of the state since 1954. Because of the significant position of counties in the political structure of the state, the enabling legislation provides for the unit of local government responsible for mental health services usually to be organized as a part of county government. This condition applies in all counties of the state now covered by community mental health boards, except for the five counties wholly contained within the boundaries of the City of New York.

Quite obviously, boards organized to administer a program for a large urban population must differ in some respects from those established to serve a rural population. Substantial variations even exist among the counties serving relatively densely settled areas: the eastern counties (Westchester, Nassau and Suffolk) differ from the large "upstate" counties (Erie, Monroe and Onondaga, which entirely contain the sizeable cities of Buffalo, Rochester and Syracuse). Furthermore, significant differences may be discerned in comparing any one of the above with any other. Patently beyond the scope of this paper is the comparative treatment of mental health boards in the State of New York, to say nothing of those which exist elsewhere.

Fortunately, for this with regard to New York State, one may turn to the book by Davies[8] which provides the desired concentration upon the community mental health board—not only of New York City but also of 25 New York counties. His work is a review of the first five years of operations under the State Community Mental Health Services Act. Neither Davies' book nor another useful book reporting the effort of the Board in New York City during the first two years of operation[9] are to be found in a recent, useful guide to the literature in community mental health and social psychiatry published by Harvard University.[10]

Probably a good many of the observations made, inferences drawn and conclusions reached as a result of the work in New York City will be applicable to other communities, with appropriate allowances made for local differences. I would have been less sanguine in making such an assertion had I not had the benefit of regular conferences with the directors of community mental health services and assistant directors from the named metropolitan and western New York counties. Since 1960 these meetings have demonstrated that common problems may be perceived in different localities quite uniquely and that discussions of methods of approach lead to new community efforts which are more productive and helpful.

One learns that the most impressive difference between New York City and other communities—that of colossal proportions—need not interfere with the abstracting of elements from the organizational patterns or administrative processes applied elsewhere for adaptation to the City of New York. This presentation is based on the assumption that the inverse is also valid; namely, that portions of the experience of the New York City Community Mental Health Board will be applicable elsewhere.

AGENCY OF LOCAL GOVERNMENT

The fact that the community mental health board is an element of local government thus is a fact of cardinal significance. The board is not a part of the state government; hence the board is not an extension of the vertical organization of the State Department of Mental Hygiene. Furthermore, the community mental health board is a new and distinct agency of local government. The board is not under the local department of health or welfare or hospitals, but is directly responsible to the chief executive. These two sovereign facts, in the main, are responsible for the unique character of this new governmental organization for mental health.

A review of the historical development of modern public health suggests that community mental health may anticipate a future in which local government assumes an ever greater responsibility for local mental health services. Even though nongovernmental agencies also will be engaged in portions of the work, the major effort will be by local government. Clearly required is an adequate local organization with missions and operations directed toward systematic reduction of mental health problems.[11]

As provided by state and local law, the New York City Community Mental Health Board, the Director of Community Mental Health Services and his staff together comprise the principal mental health agency of the City of New York.

Board Structure.—The state law requires a nine member board, of which seven members are appointed by the mayor. At least two of the appointed members must be physicians actively engaged in private practice. The appointed members serve overlapping terms of four years, without compensation. The City Commissioners of Health and Welfare serve as members ex officio. The mayor designates one of the members as Chairman.

Powers and Duties.—The state law sets forth the basic powers and duties, and the city law follows the pattern closely. In brief these are: (1) to review and evaluate community mental health services in the city; (2) to submit to the mayor a program of the needed mental health services and facilities; (3) to carry out the program through: (a) agreements approved by the City Board of Estimate, with other appropriate city agencies for the rendition of services and the operation of facilities; or (b) contracts with other agencies, approved by the Board of Estimate, for services and facilities essential to a community mental health program; (4) to make rules and regulations concerning the rendition of services and the operation of facilities supported wholly or partly by tax money; and (5) to appoint a psychiatrist, whose qualifications meet the standards fixed by the State Commissioner of Mental Hygiene, to serve as the Director of Community Mental Health Services.

Director of Community Mental Health Services.—As chief executive officer of the Board, the Director is empowered to "employ and remove such officers, employees and consultants as may be necessary for the work of the board and fix their compensation within the amount appropriated for each position or item, and approved by the board." The Director's other statutory powers and duties include: supervise generally services and facilities, operated or supported by the Board; supervise generally treatment of patients in the services or facilities maintained by or under direction of the Board; recommend to the Board provision of services and facilities; prepare an annual report to the Board; conduct studies appropriate to discharge of the Director's duties, promotion of mental health or prevention of psychiatric disorders.

STATE AID

The New York Act made provision for the state to reimburse a city or county government up to 50 per cent of net expenditures for community mental health. In order to qualify for 50 per cent state reimbursement the expenditures of a local government had to be made in conformity with the regulations of the state Commissioner of Mental Hygiene.[12] However, a per capita limitation provided that "total state reimbursement shall not exceed an amount equal to one dollar per capita for the population." This limiting feature, written into the act as a gauge to measure projected state costs, is generally now regarded as an impediment to full state-local sharing in communities having developed substantial local mental health services.[13]

State aid to localities under this act must be understood not to be in the form of a grant. The state act did not authorize a grant to the local community of one dollar per capita to be spent for local mental health services. This was not established as a categorical grant patterned after the federal-state program of community mental health grants. On the contrary, under this system of aid the local government first must spend its funds for mental health and then apply to the state for reimbursement of one half of the state-approved expenditures.

The reimbursement feature affects the relationships, not only between the state and local governments but also within the locality. Reimbursement largely determines the character of the relationship between the local board and voluntary agencies in the community. Grants are not made to voluntary agencies for mental health work; rather a contract is written between the city (with the Board as agent) and the voluntary agency. Accounts are carefully kept so that audit by the representative of the State may verify that the monies were appropriately spent for purposes of state reimbursement, whether city tax revenue or voluntary agency contribution under the contractual arrangement. This has the effect of requiring a line-by-line, item-by-item, pre-audit of programs at the local level. Program flexibility in such a system clearly requires a substantial fiscal and accounting operation.

PROGRAM SCOPE

Generally when one makes reference to the mental health program of the community, the understanding is conveyed that "program" is a covering term for a wide range of mental health services and activities. This was implicit in the working document for the 1955 Annual Conference of the Milbank Memorial Fund. That document was prepared as a systematic report on the variety of mental health activities found upon survey in New York City. The conference was entitled "The Elements of a Community Mental Health Program"; the papers presented at the conference were grouped into four sections: one on raising the level of mental health in the community (mental health consultation); one on primary prevention; and two on direct patient services—early diagnosis and treatment; and rehabilitation.[14]

There are advantages to a view of community mental health which incorporates mental health consultation, primary prevention, secondary prevention and rehabilitation. These present an appealing range and are derived from the continuum in preventive medicine with which many are familiar.[15] Furthermore, a number of authorities have used these in application to the varied areas of mental disorders.[16-20] In considering the extent of local responsibility appropriate for the Community Mental Health Program, however, one also must consider matters which are related to the scope of the acknowledged and accepted field. In terms of scope, the state act suggests that a program should include activities aimed at preventive services, rehabilitative services and treatment services. The act identifies the categorical areas of "mental illness, mental deficiency, epilepsy and behavior or emotional disorders" to further define scope. Not specifically stated are two other categorical areas presumed to be included: narcotic addiction and alcoholism.

For purposes of reimbursement under the New York Act, four types of community mental health services were defined: outpatient psychiatric services; inpatient psychiatric services in general hospitals; psychiatric rehabilitation services, and consultative and educational services. When established in accordance with regulations promulgated by the State Commissioner of Mental Hygiene and as a part of the locally administered board program, these types of services would be considered as reimbursable under the provisions of the Act. Of the four identified services, two were already familiar to and accepted by the local government in New York City; rehabilitation was generally considered to be a state function, in connection with the state responsibility for long term care of the mentally ill; consultative and educational services (as preventive measures) were deemed experimental or exploratory demonstrations where present.

The Decade of Opportunity

What must seem clear to all is the tremendously comprehensive range of mental health problems toward which effort may be directed. These problems have been present for a long time. Why then do we feel an excitation of hope? Why does it seem to some of us that this decade is the "decade of opportunity"? Possibly one reason for this is the validation on every side of the view that opportunity is indeed at hand.

We have had the experience under the National Mental Health Act of 1946, of delineating the field of extra-mural activity. We have had leadership exercised at state level in the enactment of community mental health laws, which have returned interest to and encouraged assumption of responsibility at the local level. This has resulted in a redefinition of responsibility for care so that local citizens' groups may make their wishes known to local, as well as state officials. Thus, greater opportunity is provided to mental health associations and their allies to enter pleas and, when needed, demands for improvements in local community services. The significance of this shift of power toward the grass roots in a democratic system of government must be understood and exploited in behalf of the mentally ill, and the near-mentally disordered. If no other issue were present, this trend alone would be almost encouragement enough. Good government, which I believe responds to the needs of the governed, at last is being enabled to awaken to the impulses arising out of local need.

This thesis has been given perspective by a number of important recent publications and events. The Surgeon General's Ad Hoc Committee on Planning for Mental Health Facilities,[21] the Final Report of the Joint Commission on Mental Illness and Health,[22] the Resolution of the 1961 Governors' Conference[23] and the recent AMA Congress on Mental Illness and Health.[24]

There is now reason to believe and hope that the federal government may help to grasp the new opportunity. Planning money already has been appropriated for use after January 1, 1963, by the states to blue-print community mental health services. Here I would interject a partisan viewpoint and one which I would encourage you to adopt as your own: planning for local mental health services truly must include local community planners. We must be prepared on the local level to enter actively upon the planning of services, under the leadership of the state office. We at the local level cannot be ignored; neither can we fumble nor falter when so much is at stake. Where local community mental health boards have been erected, the administrative nucleus is established to which planning groups may relate in meaningful arrangements. In states in which community mental health legislation has not yet been adopted, the collaborative effort between state officials and local interests may be more diffuse and more difficult to achieve.

What Are the Opportunities?

If I may use the New York City Community Mental Health Board as an example, I may cite some kinds of activities which are now sponsored and supported by a local agency of government. Confining myself only to the period of my short association with the board commencing early in 1960, permits a sufficient view. The activities of this particular board have been undertaken with the full support and encouragement of the city administration. These are: expanded and increased outpatient clinics in the community; expanded general hospital inpatient psychiatric services available to the community through municipal and voluntary hospitals in the city; inaugurated payments for day and night services in voluntary hospitals for city patients; supported a unique, five level continuum of community psychiatric services for a fixed population of the city to thoroughly try the effectiveness of continuity of care; promoted and supported a new community psychiatry center jointly with the city Department of Hospitals, Department of Health and a school of medicine[25]; developed the psychiatric service component of a comprehensive health service in collaboration with a voluntary hospital and the city health department; promoted the opening of a geriatric psychiatric clinic in a voluntary general hospital; engaged in supporting a specialized facility for the very young mentally retarded and their parents; accepted responsibility for the mental health aspects of care in schools for the seriously disturbed child; advocated and obtained approval for research in conjunction with a school of public health for a study of user perceptions of mental health facilities and services; colloborated in sponsoring an institute with the Manhattan Society for Mental Health on "Realizing the Mental Health Potentials for Children and Youth in City Living"[26]; instituted a new mental health consultation service to personnel engaged in local services for the aged; joined with the city Youth Board and a voluntary agency in a unique effort to give mental health consultation support to workers who are helping teen-age street club members; established a new key post in correctional psychiatry in collaboration with a school of psychiatry and the Department of Correction; and participated actively in the training of community psychiatrists under the program of Columbia University Faculty of Medicine.

These, I trust, give some added color to the picture of local community mental health effort. They have been fully supported by the local government of the City of New York. This is the theme which I reemphasize: that local government can be and wants to be equal to demands of the community.

When an industry has obsolescent factories, outmoded manufacturing procedures and a product for which there is no market, one is not surprised when bankruptcy enters. The same features of obsolescent hospitals, outmoded systems of care and a nontherapeutic result, in the field of mental disorder, does not spell bankruptcy but disaster. That our disaster may be relieved is the hope of today's ferment in the mental hospitals and mental health field generally. We must see that community services are available so that the successfully treated patient continues on a favorable regime, if needed, when hospitalization is no longer required. We must be prepared to go forward on a wide front at the local level where the action must take place in prevention, treatment and rehabilitation.

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16. An Approach to the Prevention of Disability From

(Continued on page 1026)

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Syphilis

The Problem

In this modern world of dramatic technical advancement, of high school graduates more sophisticated than many a Ph.D. of a half century ago, of moon rockets and miracle medicines, it is hardly conceivable that a communicable disease susceptible to relatively easy diagnosis and treatment should not have long since been eradicated. And yet, since 1958 syphilis has reversed its downward trend and with each passing year the problem becomes greater and greater. Syphilis has invaded every age, sex and racial group, every geographical area—urban and rural. It has been aptly called a paradox of modern medicine.

The rapidly increasing incidence of syphilis is discussed as well as serologic diagnosis and treatment. The article is sponored by the Committee on Control of Venereal Disease of the Missouri State Medical Association. The purposes of the paper are twofold: one, to alert physicians to the current status of syphilis in Missouri and point out ways in which they can reduce the problem materially, and, two, to present recent developments in the serologic diagnosis and treatment of syphilis.

Many physicians have not seen—or recognized—a case of early syphilis for many years and may, therefore, wonder why the concern. Nevertheless, the number of new cases of syphilis reported among civilians in Missouri has increased 233 per cent since 1958. It is true that some areas appear to be free of the disease, but there is no assurance that this is so, certainly no assurance it will remain so.

It is difficult, if not impossible, to measure and evaluate the various factors responsible for the resurgence of syphilis. Urbanization, increased mobility of population, family breakdown and increased sexual promiscuity resulting from tensions of the time are all presumably contributing to this problem.

SYPHILIS REPORTED TO MISSOURI DIVISION OF HEALTH—FISCAL YEARS—1958-1963

Year	*Primary and Secondary*	*Early Latent*	*Total Cases*
1958	63	379	3,530
1959	74	379	3,297
1960	92	323	2,944
1961	143	389	3,710
1962	190	396	4,265
1963	210	304	3,834

There are at least two other significant factors, both closely and directly related to medical practice, which permit the continued rise in syphilis incidence. First, there is currently a relatively low index of suspicion of syphilis by most physicians and, secondly, a significant percentage of contacts of infectious cases continue to spread their infections to others because they are not promptly located and brought to treatment. Our public health colleagues refer to this as "failure of epidemiology."

The Solution

It is understandable that physicians today may fail to recognize a case of early syphilis. With less than 300 cases of primary and secondary cases reported annually in Missouri, and probably less than 800 cases actually occurring, many of the approximately 6,000 physicians in the state may not have seen an early lesion for several years. Furthermore, few of the nearly 7,000 physicians graduated in this country each year have had more than two hours of syphilology and fewer still have seen an early lesion. As with other communicable diseases which have been markedly reduced, it has become increasingly difficult to maintain an awareness of the syphilis problem.

In the move toward eradication of syphilis one must deal with the problem of non-recognition of the disease in all its stages. More emphasis on the disease in medical schools will help. More important, however, is the need for every physician to recognize that syphilis is still with us. All lesions must be suspect, especially those of the genital region. Once suspicion is awakened, consultative and laboratory services, including darkfield examination, are available from specialists or the health department, if needed.

The recognition and treatment of persons with infectious syphilis who voluntarily seek medical care will, however, only partially solve the problem. Many patients, especially females with "quiet" infections, do not seek medical care. Such persons continue to transmit their infections to countless others until time renders them non-infectious or their infections are discovered through a routine blood test. An analysis of admissions to a public clinic some years ago revealed that only 20 per cent of the infectious syphilis cases came to the clinic on their own initiative.

Syphilis will not be eradicated until effective epidemiological efforts are brought to bear on all cases of early syphilis. This means interviewing patients to elicit their contacts and then seeing that the contacts are examined and, if indicated, treated. Such epidemiological investigations require time and effort, rarely at the disposal of busy physicians. A properly conducted interview for sex contacts will consume an average of 45 minutes and is most successful when done by persons who have had special training. Personnel qualified to perform these functions are available through district and local public health offices in Missouri.

The chain of events involved in an epidemiological investigation of a case diagnosed by a private practitioner begins with his report of the case. This is the weakest link in the chain and, therefore, the one most in need of strengthening. Because of the long-standing stigma associated with syphilis, some physicians are reluctant to report their cases to the health department. Actually, a physician should assume the same leadership in this facet of community health as he does in others and look upon syphilis as a communicable disease with serious medical implications extending beyond the patient under his care. Health department personnel concerned with venereal disease are cognizant of the importance of the patient-physician relationship and have been trained to keep contact information and the identity of patients in strict confidence. Hopefully, a better understanding and more effective partnership between practicing physicians and public health personnel will emerge in the months and years ahead. Until this occurs, syphilis will continue to flourish.

After an infectious case is reported to the health department, arrangements can be made for a qualified person to interview the patient for contacts at a suitable time and place, perhaps in the physician's office.

Named contacts must be located and brought to examination. Health department investigators are best equipped to perform this service. With the increasing mobility of the population it is not unusual to have contacts named who live in distant states or even in foreign countries. Health departments have a system for the rapid transmittal of contact information between jurisdictions, frequently using long distance phone calls.

It is only through the recognition and reporting of infectious syphilis by practicing physicians and the subsequent thorough epidemiological investigation by qualified interview-investigators that syphilis will be eradicated from Missouri and the nation.

Serologic Diagnosis of Syphilis

During the last few years the Missouri State Medical Association Committee on Control of Venereal Disease working with the Committee on Laboratory Medicine and the Missouri Division of Health, has developed a program under which laboratories report reactive or positive blood tests for syphilis to the State Division of Health. This program has helped tremendously in bringing epidemiological services to bear upon many cases of syphilis which might otherwise be missed. It has also pointed up the fact, long suspected, that many physicians feel insecure in the diagnosis of some cases of syphilis. Although a careful history and physical examination are vital to a proper diagnosis of syphilis, the nature of the disease is such that most infections are detected and diagnosed on the basis of serologic tests.

There are two basic types of serologic tests for syphilis, nontreponemal and treponemal.

The nontreponemal tests detects the presence of an antibody complex known as reagin. Such well known and well established tests as the VDRL, Kahn, Kolmer, Mazzini and Kline are examples of nontreponemal tests. As a group, they are sometimes referred to as serologic tests for syphilis, or STS. These tests will detect reagin in the blood four to six weeks following infection with syphilis or one to three weeks following appearance of the primary lesion.

Nontreponemal tests are performed and reported on both a qualitative and quantitative basis. Quantitative results are obtained by diluting or titrating the serum in geometrical progression to an end point where it is no longer reactive. For example, a report on a blood that is reactive in a 1:8 dilution, or 8 dils, means that the serum was reactive in a dilution of 1:8, but not in a dilution of 1:16. A quantitative Kahn test may be reported in terms of Kahn units, which are derived by multiplying the Kahn titer by 4.

Quantitative tests are helpful because they establish a baseline of reactivity with which future quantitative tests may be compared. This is particularly helpful in evaluation of treatment and in the detection of progressive early syphilis. A fall in titer following treatment of early syphilis denotes satisfactory progress. In long standing infections, treatment may have little influence on the serologic titer (sero-fast patients). A rising titer, on the other hand, suggests treatment failure. It should be pointed out here that a one titer variation in the quantitative titer is not necessarily significant. It may represent a laboratory variation.

A quantitative serologic result cannot be relied upon as an indication of the stage of syphilis. The stage of infection must be determined from physical findings, history, age of patient and sometimes on epidemiological evidence. It is also true that the serologic titer will usually be highest in secondary syphilis, but there is too much individual variation in serologic responses to depend upon this finding alone for an evaluation of stage of disease.

These nontreponemal tests, though nonspecific in a sense, have been perfected and standardized over the years to a high level of accuracy. They are inexpensive and widely available. In the presence of clinical or historical evidence of syphilis, a reactive STS may be accepted as adequate confirmatory evidence of infection with syphilis.

Occasionally diagnostic problems arise. The laboratory may routinely perform two or more different tests on each blood specimen and the results may be contradictory; or all tests on a single specimen may be reactive in low titers but, in the absence of any other evidence of infection, the diagnosis is still questionable. Under these circumstances it becomes necessary to utilize a treponemal test, the second of the two basic types of tests mentioned previously.

Treponemal tests are considered more specific for syphilis because the test antigen is a treponema or one of its fractions. The first of these was the Treponema Pallidum Immobilization Test or TPI. The test is based upon the ability of syphilis antibodies to immobilize viable T. Pallidum in the presence of complement. Although this test is considered quite specific for syphilitic infection, it is difficult to perform, expensive and not readily available. In addition, it is less sensitive than the reagin test. In early darkfield positive syphilis the STS will become reactive before the TPI.

Because of the difficulties associated with the TPI test, other treponemal tests were devised. One of these is the Kolmer Reiter Protein or KRP test. The antigen used in this test is a fraction or extract of nonpathogenic Reiter strain treponemes. A KRP test will be performed by the Missouri Division of Health laboratories upon request if one has a diagnostic problem. A reactive KRP is strong evidence of syphilis. Unfortunately, a negative or nonreactive KRP is not sufficient evidence to exclude a diagnosis of syphilis. Therefore, if one has a patient with a reactive STS and a negative KRP, recourse must be had to a TPI or a Fluorescent Treponemal Antibody (FTA) test. The FTA test is now available in Missouri's public health laboratories upon request. This is a tricky test and its ultimate or final evaluation will take time. At the moment, however, it appears to be comparable or superior to the TPI in sensitivity and specificity. The FTA test utilizes the principle of fluorescein tagged antibody adhering to dead T. Pallida.

If either the KRP or the FTA confirm the original reactive STS, a diagnosis of syphilis should be made. If neither the KRP or FTA confirm the STS, a reason should be sought for a Biologic False Positive (BFP) STS.

BFP may be acute or chronic. The acute usually occurs after acute illnesses, such as virus infections, or vaccination or immunization, and the false positive tests revert to negative within a few weeks or months without therapy. The chronic BFP is usually of low titer and is frequently associated with the so-called collagen or auto-immune diseases, especially systemic lupus erythematosus.

Reactive tests on pregnant women should be handled essentially the same as other reactors. If the woman is known to have been adequately treated previously and not reinfected, she should not be retreated merely because of pregnancy. Tests should be repeated at least once each trimester and if there is any rise in titer the patient should be treated. Therapy at any time during pregnancy is helpful in the prevention and management of congenital syphilis, but it is most effective during the first five months. If syphilis is suspected during pregnancy and there is insufficient time for proper evaluation, treatment should be given.

There is one other problem. The widespread use of antibiotics today for a diversity of reasons has resulted in the "accidental" treatment of many cases of syphilis. One may thus be confronted with patients treated in varying degree with low titer serologic tests, but having no clinical evidence of infection or history of treatment for syphilis. There may be considerable temptation to interpret such tests as BFP. However, since modern tests for syphilis enable one to distinguish with a high degree of accuracy between the true syphilis reactor and the biologic false positive reactor, it is important that any questionable syphilis diagnosis be confirmed or excluded by use of repeated tests, including a specific treponemal test. Only in this way can one be assured of adequate treatment for those who need it.

Treatment

Penicillin is the treatment of choice for syphilis. A penicillin blood level of between 0.03 and 0.2 units per milliliter maintained over a period of 10 days is adequate treatment for any stage of syphilis. The following schedules are in line with what has accomplished the best results in the experience of most experts in the field of syphilotherapy.

Primary Syphilis.—Benzathine Penicillin G (Bicillin) should be given, 2.4 million units total (1.2 million units in each buttock by intramuscular injection through a long needle to insure that the injection is intramuscular, in one visit). This penicillin is a long acting repository type which maintains blood levels from four to six weeks. Procaine Penicillin G, with 2 per cent aluminum monostearate (PAM), can be used, 4.8 million units total, usually given intramuscularly, 2.4 million units at the first session, and 1.2 million units at each of two subsequent injections three days apart. This penicillin maintains blood levels for three or four days. Aqueous Procaine Penicillin G may be given, 600,000 units daily for eight days, total 4.8 million units.

When penicillin sensitivity makes the administration of the drug of choice impractical, then alternate antibiotics may be given, erythromycin and tetracycline being the best alternate drugs. The recommended dosages are 20 to 30 grams of erythromycin and 30 to 40 grams of tetracycline given daily over a period of 10 to 15 days. Treatment with alternate antibiotics must be accompanied by close follow-up of the patient. Spinal fluid examination must be done as part of the follow-up.

Secondary Syphilis.—The same therapeutic recommendations apply to secondary syphilis as were set out for primary syphilis.

Latent Syphilis.—Latent syphilis is "hidden syphilis." There are no clinical manifestations. Diagnosis is generally made on the basis of positive serologic tests after the possibilities of other syphilitic stages have been ruled out by physical examination and spinal fluid examination. The syphilologist recognizes "early latent syphilis" as syphilis of less than four years' duration and "late latent syphilis" of more than four years' duration, and for health department purposes it is better to report it in this fashion. Epidemiologically the first year is the most infectious.

Benzathine Penicillin G. If for some reason no spinal fluid examination is done—and one should be done—one must treat so as to encompass the possibility of asymptomatic neurosyphilis. In such cases 4.8 to 6.0 million units total should be given, 2.4 million (1.2 in each buttock each session) at seven day intervals. With a nonreactive spinal fluid finding, 2.4 million units may be given at a single session. With PAM, usually 4.8 million units are given at the first session and 1.2 million units at each of two subsequent injections, three days apart. Aqueous Penicillin G, 4.8 million units total may be given 600,000 units daily for eight days, or alternate antibotics may be used.

It is to be noted that whatever system of therapy is used, routine serologic and spinal fluid reevaluation should be carried out at six month intervals for two years. A rise in titer may signify serologic relapse or reinfection and may indicate the need for retreatment. Do not consider the persistence of a reactive serologic test for syphilis as an indication for retreatment.

Syphilis in Pregnancy.—In the pregnant woman, the signs of syphilis depend on the duration of the infection and also on the month of pregnancy. If the infection and the conception were concurrent, the mother probably will develop stigma of early syphilis, and the child can hardly escape infection. If the mother is infected late in pregnancy, she may show no signs of syphilis before delivery and the child may escape infection. If the mother has an untreated syphilis of more than four years' duration, the baby may not be infected. Treatment at any time during gestation is indicated and effects a cure of congenital syphilis in the baby almost without exception. Adequate treatment of the mother during the first 18 weeks of gestation prevents infection of the baby because the Treponema Pallidum probably does not cross the placental barrier until about the 18th week. Treatment amounts therefore depend on the stage of the disease. No additional medication is necessitated by the pregnancy.

Congenital Syphilis.—Early Congenital syphilis resembles secondary syphilis, but is usually more severe. It is usually highly infectious and affects children under 2 years of age. One should be careful not to be misled by a passive transfer of reagin. One may have little faith in a cord serological test for syphilis. If the mother has been under treatment, chances are the infant's own blood will contain passive transfer reagin and the blood will return to nonreactive within three months. If the mother has been infected shortly before the birth of her child, the cord blood and the infant's blood both may be negative and the infant should be watched for a developing titer and signs of congenital syphilis.

Treatment of infection under two years' duration should aim at maintaining an effective blood level for 10 days. This can be done by administering penicillin from 0 to 6 months: 150,000 units per pound to 1.5 to 2 million units total dosage; 7 to 12 months: 125,000 units per pound to a total dose of 2.4 million units; 13 months to 2 years: 120,000 units per pound to a total dose of 3 million units. Depending on the child's weight, Procaine Penicillin G, 0.5 to 2.0 cc. daily intramuscularly may be used for 10 days. PAM may be used, 2 to 4 cc. intramuscularly at three or four day intervals until the total dosage is given. Benzanthine Penicillin G, 4 cc. intramuscularly, can be given at one to two week intervals until the total dose is given. Up to 8 cc. or 2.4 million units may be given at one time in two sites if such a dosage is indicated.

Late Congenital Syphilis.—If the disease has been untreated and has progressed beyond the second year of life and stigmata are noted, the treatment should be: 2 to 4 years: 100,000 units per pound, total dose 3.6 million units; 5 to 12 years: 60,000 to 75,000 units per pound, total dose 4.8 million units; more than 12 years: 50.000 to 60,000 units per pound, total dose 6 million units. Procaine Penicillin G, PAM and Benzathine Penicillin G schedules are the same as for early congenital syphilis.

Late Syphilis.—The classification of late syphilis includes asymptomatic neurosyphilis, symptomatic neurosyphilis, cardiovascular syphilis and late benign syphilis which include such manifestations as cutaneous, osseous and visceral gumma. Treatment is approximately the same for each. Treatment is: Benzathine Penicillin G, 6.0 to 9.0 million units total, giving 3.0 million units at seven day intervals; or PAM, 6.0 to 9.0 million units total giving 1.2 million units at three day intervals; or Aqueous Procaine Penicillin G, 6.0 to 9.0 total, giving 600,000 units daily. It is to be noted that in any of these schedules, any benefit from more than 10 million units is doubtful and has not been demonstrated.

Penicillin Sensitivity

Allergic and Anaphalactic Reactions.—Penicillin reactions are being reported in increasing numbers. Penicillin should never be administered to patients who have had a previous reaction to it. All patients should be observed for 15 minutes to a half hour after receiving the injection of penicillin. Adrenalin, injectable antihistamines and cortisone should be at hand to counter any side effects which arise as a result of the administration of penicillin.

"Syphilis is a serious medical problem again because the public no longer believes it is a serious medical problem" is the view of Dr. M. Brittain Moore Jr., of the Public Health Service's Communicable Disease Center, Atlanta, Ga. Dr. Moore also stated: "When we have assigned to syphilis a status of intolerability, when we have agreed that the eradication of syphilis is a feasibility and a necessity, then I believe the eradication of syphilis will be a foregone conclusion."

The members of the Committee on Control of Venereal Disease hope that Missouri's practicing physicians will recognize this serious problem and in addition to providing those afflicted with the disease with early diagnosis and effective treatment will also work with the local and state health personnel in searching out all contacts and hidden reservoirs of syphilitic infection. Only by physicians accepting the responsibility and implementing the proposals and suggestions made, can the physicians of Missouri hope to make any inroads to the problem of the control of syphilis in this state.

REVIS C. LEWIS, M.D., ***Kansas City***

Bilateral Carotid Atherosclerosis

In the last few years almost all issues of the neurological journals have contained reports on some aspects of carotid artery occlusions. Following the pioneer work of Fisher[1] the frequency of this condition has been emphasized many times. Whisnant and Martin[2] have demonstrated that unsuspected stenosis and occlusion are rather frequent. The efficacy of the differing types of medical and surgical management have yet to be determined to everyone's satisfaction. Plum[3] in his summary of the Princeton Conference on Cerebrovascular Disease mentions that improvement was most difficult to distinguish from spontaneous recovery of neurological function in both the operated and medically treated groups.

My own enthusiasm for surgical measures has been tempered by an eight year follow-up of a patient with bilateral carotid artery disease in which lesions were demonstrated arteriographically four years following the onset of symptoms.

Case History

The patient is a right handed white male who was 47 years old when first seen in September of 1954. A month previously the right foot was weak for a period of 24 hours. The weakness recurred three weeks later and continued with slight progression. The day before examination, the right hand had become somewhat clumsy so that he could not sign a check. Speech was not affected.

The patient had been somewhat overweight but under medical management, had reduced from 267 pounds to 200 pounds in the previous year. The patient's blood pressure had been reduced from 180/100 to 150/90.

On examination there was a right foot drop with slight weakness of the remainder of the muscles of the right lower extremity. Reflexes and sensation were normal. Cranial nerves were normal. X-rays of the skull revealed the pineal to be shifted 2 mms. to the right. The following day the patient was somewhat confused and there was mild weakness of the right face. A stellate block had no beneficial effect. Intramuscular Papaverine therapy was instituted and in two days the face was again symmetrical, but the right foot drop persisted.

Two weeks later a pneumoencephalogram (fig. 1) revealed a normal spinal fluid pressure. The ventricles were not unusual but there was pronounced cortical atrophy bilaterally. Immediately after the procedure there was a complete right hemiplegia which returned to the preoperative state within two hours.

The patient was dismissed from the hospital a a month after our original consultation. He had been on nicotinic acid and metrazol for two weeks and this medication was continued as an out-patient. There was minimal clumsiness of the right hand and persistent weakness of the right foot with ankle clonus at this time. Two weeks after dismissal there was sudden aphasia lasting several minutes, returning to normal within several hours. The patient returned to work managing an office in January 1955. He continued on medication without further symptoms until January 1959. On routine examination the right carotid artery was auscultated for the first time and a murmur discovered.

A case history is presented with an eight year follow-up since the original symptoms.

Dr. Lewis is on the staffs of Trinity Lutheran, Research, St. Mary's, North Kansas City Memorial, St. Luke's, Kansas City General and Children's Mercy hospitals and the Menorah Medical Center.

The patient was readmitted to the hospital for left and right carotid arteriograms (figs. 2 and 3). These demonstrated a complete block on the left internal carotid with filling of the intracranial circulation intracranially through the external carotid. The right carotid bulb was markedly stenosed; however, the right carotid injection demonstrated not only the ipsilateral vessel but the left anterior cerebral and to a slight extent the left middle cerebral circulation.

In March 1959, the patient was readmitted to the hospital with lethargy, increasing right hemiparesis and speech difficulty. An intracarotid Papaverine injection on the right side was carried out. The patient noted improvement immediately in speech and strength.

The patient was started on anticoagulants but these were discontinued after a gastrointestinal hemorrhage in April 1959. The patient continued with nicotinic acid and metrazol and periodic Papaverine by mouth. He was able to work and enjoy various activities including trout fishing. In June 1961, because of occasional dizziness, anticoagula-

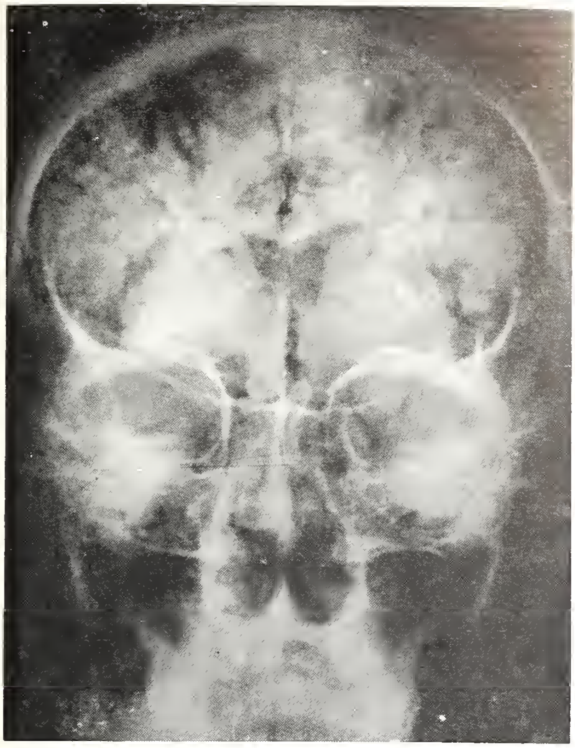

Fig. 1. Pneumocneephalogram of September 1954, demonstrating diffuse cortical atrophy and enlargement of the left lateral ventricle.

tion therapy was reestablished and has been continued up to the present time. Nevertheless, in December 1961, blindness developed in the right eye, persisting for 20 minutes. Funduscopic examination remained normal. Visual field examination revealed an upper nasal defect in the right eye.

The patient continues to work full time. He is aware of weakness of the right leg when climbing stairs. Deep tendon reflexes of the right arm and leg are somewhat exaggerated, and there is still a murmur over the right carotid artery. The patient's right hand grip measures 80 pounds compared to 120 pounds in the left. The patient's speech is normal except for occasional difficulty in expressing himself when excited.

Comment

In this case, we would have been extremely enthusiastic about our results had we performed an endarterectomy originally. Since the diagnosis was not made until four and one-half years after the onset, we were spared that error.

The necessity of adequate control series must be stressed. I have had personal contact with approximately 50 proven occlusive carotid lesions, treated by various medical and surgical procedures. The best clinical results came in two patients with complete occlusions which could not be relieved surgically. Cervical sympathectomies were done on these patients which in the light of further experience may have increased collateral circulation through the external carotid.

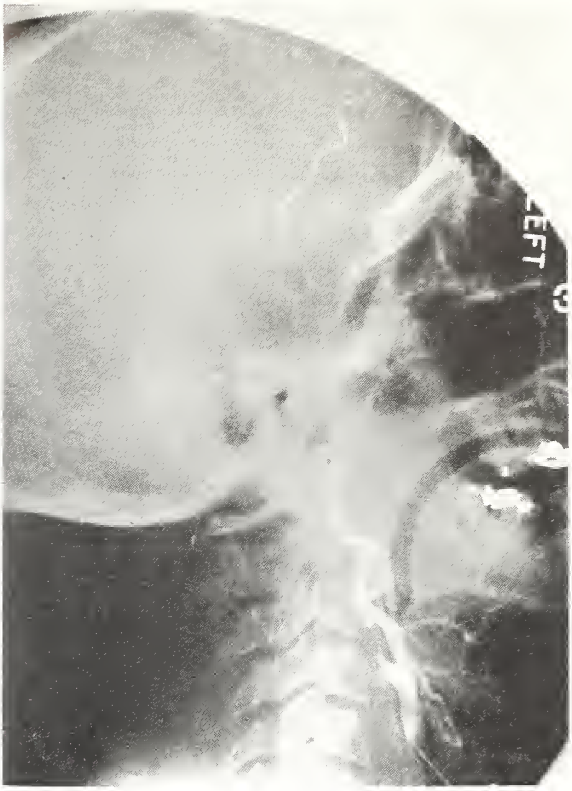

Fig. 2. Left carotid arteriogram demonstrating complete internal carotid occlusion, and collateral intracranial circulation by means of the angular and ophthalmic arteries.

At the present time it is my feeling that the slowly progressive nature of atherosclerosis affords ample opportunity for the development of collateral circulation, providing the atherosclerosis is confined to the great vessels of the neck and providing the circle of Willis is patent. When there is considerable intracranial disease, intracranial circulation necessarily remains poor, and neither surgical or medical procedures seem to have a great deal to offer. We are interested at the present in attempts to increase collateral circulation through the external carotid artery. In the few cases of relatively asymptomatic carotid occlusions in this series, circulation has been provided through the ipsilateral external carotid, as well as through the anterior communicating artery.

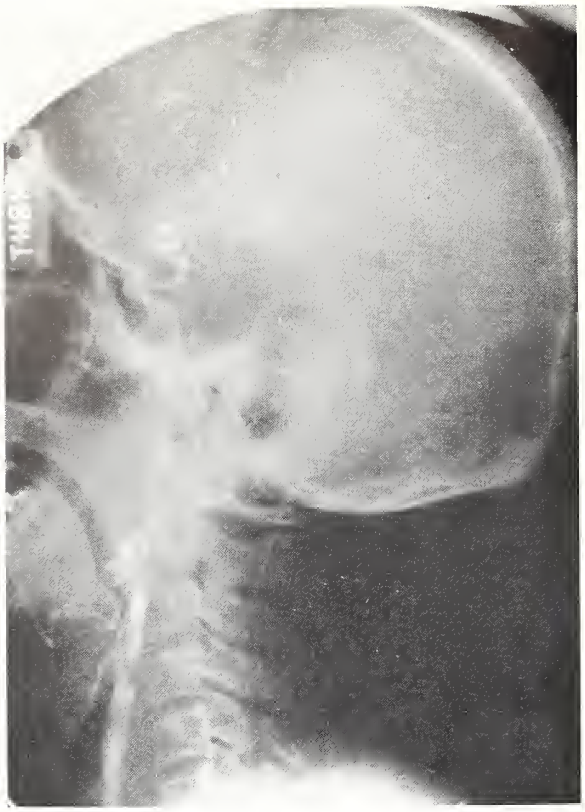

Fig. 3. Right carotid arteriogram revealing pronounced stenosis of the common carotid bifurcation.

Summary

A case of bilateral carotid artery disease with an eight year follow-up is presented. The patient is working full time except when he is away on fishing trips. He exhibits only a mild residual right hemiparesis. He developed a quadrantic field defect in the right eye a year ago.

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MENTALLY ILL

(Continued from page 1018)

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MISSOURI ACADEMY OF GENERAL PRACTICE

(Continued from page 1004)

that they lose some of their impact. He suggested that medical societies or groups invite their representatives to meet with them at a time convenient to both and talk over with them legislation in general as well as that which had medical implications. This advice seems like real practical politics.

Dr. Shuffield spoke on how the Arkansas Medical Society had obtained a room at the state capitol and equipped it as a medical facility with a nurse, drugs, oxygen, which was manned voluntarily by members of the Arkansas Medical Society, each volunteer spending one day at the facility. The Arkansas legislative was in session for 48 days and they had more than 230 volunteers and many physicians who couldn't volunteer sent contributions to cover the expense. The service was given with no charge to the legislators and besides providing excellent personal contact with the law makers, was as extremely successful public relations project. He said that it also became a status symbol for the legislators in that they were anxious to introduce their physician constituent to both houses on the day "their physician" was on duty.

Congressman Keogh's remarks were well received and he adequately discussed the advantages and the shortcomings of the Keogh Law and spoke on the possibilities of improving the provisions of the law in the future.

The game ended promptly at twelve noon, Sunday, with Mac Cahil firing all remaining in the Referee Ellis gun—with no casualties reported.

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Kenneth C. Hollweg, M.D.

President's Message

Recently you received the following letter from Ralph Perry, M.D., Chairman of the Missouri Medical Political Action Committee:

"If we want to preserve the freedom of our profession, we've got to do more for '64!

"You and I, and every practicing physician in Missouri, are going to have to actively join in the fight against federal medicine by supporting candidates who share our views in the 1964 primary and general elections. The most effective way to do this is to join MMPAC, your state professional political action committee—and to join now!

"Let me emphasize the importance of joining MMPAC now. In 1964, Missourians will elect a governor, one U. S. Senator, 10 United States Congressmen, 17 state senators and the entire membership of the state House of Representatives. And, for the first time in many years, it looks as if we may see really wide-open races—races in which adequately financed campaigns by outstanding individual candidates will have an excellent chance of success.

"Never has medicine's stake in the outcome of an election been greater. Therefore, MMPAC can't afford to have an 'off year.' We can't wait until next summer, or next spring, or the first of the year to plan our campaign activities. To make medicine's voice heard next year, we've got to plan now. And to plan now, we've got to have the financial support of each and every doctor in the state.

"Active membership dues for MMPAC are $25, of which $10 is forwarded to AMPAC, the national political action committee. Contributions in greater amounts, of course, will accomplish more. Ask yourself this question—'Can I spare $25, $50, $99 (or more) to help keep the practice of medicine free of unwanted, unneeded government control?'

"I know what my answer is. I hope I know what your answer will be. Remember this: We have loyal friends who will work for us in Washington and Jefferson City, but they can't help us until we help them get elected."

Your check should be sent to James C. Sisk, M.D., Treasurer, MMPAC, Room 1015, 111 N. 4th St., St. Louis 2, Mo.

Kenneth C. Hollweg MD

EDITORIAL

AMA CLINICAL SESSION IN PORTLAND

More than 7,000 physicians and their guests are expected to converge on Portland, Ore., for the 17th Clinical Meeting of the American Medical Association, December 1 to 4.

It will mark the first time that the AMA has held a clinical meeting in Portland. The Association has held two of its annual meetings in Portland, however, in July 1905, and in July 1929.

Dr. Otto C. Page, general chairman of arrangements for the December meeting, said nearly all of the scientific sessions will be held in Portland's new Memorial Coliseum. The scientific and industrial exhibits also will be shown there. Conveniently located within a few miles of the business district, the multimillion dollar Coliseum offers new facilities throughout.

Lectures, panels, symposia and breakfast roundtables again will be presented at the Portland meeting on specially selected topics, as well as color television and medical motion pictures. More than 100 physicians will deliver lectures on the scientific program during the four day meeting, and more than 200 scientific and industrial exhibits will be shown at the Coliseum, many of which will be based on new scientific research.

Practical approaches to everyday problems in adolescent patients will be the feature of a symposium. Evaluation of the adolescent patient will be discussed by Dr. Frank H. Douglass of Seattle. Other subjects and the speakers include: dermatology, Dr. J. L. Fromer, Boston; nutrition, Dr. Felix P. Heald, Washington, D. C.; growth, Dr. Solomon Kaplan, Los Angeles; gynecologic disorders, Dr. Janet McArthur, Boston; social habits and delinquency, Dr. Adolph Christ, Seattle, and the adolescent athlete, Dr. Donald B. Sloxum, Eugene, Ore.

An outstanding feature of the Meeting will be a symposium on "Genes, Chromosomes and Immune Mechanisms," Dr. Huldrick Kammer, chairman of the Scientific Program committee, announced.

The symposium will be held on Monday, Dec. 2, the second day of the meeting. The same subject will be covered in a guest lecture on Tuesday morning by Rupert E. Billingham, Ph.D., of the Wistar Institute, Philadelphia, a world authority on tissue immunity. He collaborated with Peter Brian Medawar, of London, who won the Nobel Prize in Medicine in 1960.

Joining in a panel discussion on genes, chromosomes and immune diseases late Monday afternoon will be Drs. Robert Kohler, moderator, Portland; Levin Grumbach, New York; Arno Motulsky, Seattle; Carl Pearson, Los Angeles, and Robert Blizzard, Baltimore.

Immunization, with special emphasis on the viruses, will be covered on Tuesday's program, along with cancer of the breast.

Outstanding authorities in the diagnosis and treatment of breast cancer will exchange ideas and discuss the newest forms of treatment. The physicians are Drs. Ian Macdonald and Richard Martin of the M. D. Anderson Hospital in Houston, and Dr. Maurice Lenz, emeritus professor of radiology at Columbia Presbyterian Hospital, New York.

Also on Tuesday a number of outstanding specialists will discuss the surgical aspects of infection. The doctors include Drs. William Kirby, Seattle; Jacob Fine, Boston; and Edwin J. Pulaski, Washington, D. C. They along with Dr. J. E. Dunphy, Portland, president-elect of the American College of Surgeons, will close this portion of a program with a panel discussion.

Another highlight of the scientific program will be a day-long Tuesday program on kidney problems, including the newest thoughts on kidney acid-base control. A renal symposium will include an airing of the principles of intermittent dialysis as well as the socio-economic problems associated with keeping such chronic uremic patients alive. Speakers and panel discussants include Drs. William B. Schwartz Jr., Boston; Belding Scribner, S. T. Boen and John S. Murray, all of Seattle.

Other scientific subjects to be covered by speakers during the four-day meeting include:

Heart and blood vessel surgery; peptic ulcer; the practical clinical approach to anticoagulants, metabolic obesity, anemia, edema and undiagnosed fever; urology; obstetrics and gynecology, and trauma as it relates to everyday noises, smoking in relation to mortality and morbidity, and causes of death in automobile accidents.

Ramblings of the Field Secretary

The 16th Annual Meeting of the Missouri Health Council was held at the Missouri Hotel in Jefferson City on Tuesday, September 24. The program for the session this year adopted the theme, "Communications." The opening discussion on the theme subject was entitled, "Why Communications" and was most ably presented by Dr. Frank Heagerty, Professor of Education and Director of the University Laboratory School at the University of Missouri. This was followed by a companion subject entitled, "How Communications" presented by Dr. Frederick A. Whitehouse, New York, Director of Rehabilitation of the American Heart Association. A short dramatic presentation followed designed to forcefully exhibit a situation involving a variety of poor communication examples. This was entitled, "A Case in Point," and presented by a selected group of students from the University of Missouri.

Four workshops were then held with their subject for discussion, "The Drama," which had just been presented. The afternoon session involved the subject, "Communication Media." This was handled in a "down to earth" manner by a panel composed of Dr. Edward Lambert, Professor of Journalism, University of Missouri; Mr. George Duffy, Assistant Professor of Journalism, University of Missouri; and Mr. Monte Gerwit, Program Director, KOMU-TV at the University of Missouri. Those who were privileged to attend this well organized and well presented program on "Communications" received some important facts and data relating to communications between groups and with the general public that should be most helpful.

Following the formal program a summary of the workshops and the general discussion was presented by Mr. Harry Dawdy of the Missouri Division of the American Cancer Society. The program committee for this special program was composed of Dr. Carl Marienfeld, University of Missouri Medical School, Chairman; Professor Frank Heagerty, Mr. Harry Dawdy, Mr. Monte Gurwit, Dr. William Allen, Missouri Division of Health; and Dr. Robert Froelich, University of Missouri Medical School.

It has been my privilege to serve as Chairman of the Missouri Health Council during the last year. At the conclusion of the annual meeting on September 24, Mr. Ted R. Lloyd, Executive Secretary, Missouri State Hospital Association, took over the position of Chairman and will serve in such capacity until the next Annual Meeting in September of 1964.

The total attendance at this 16th Annual Meeting of the Council was 99.

DEATHS

McAlester, Andrew W. III, M.D., Brownsville, Tex., a graduate of the University of Pennsylvania, 1925; member of Jackson County Medical Society; aged 62; died September 17, 1963.

Skinner, John O., M.D., Kansas City, a graduate of Kansas City Medical College, 1910; member of Jackson County Medical Society; aged 83; died September 17, 1963.

Vohs, Carl F., M.D., St. Louis, a graduate of St. Louis University, 1914; member and past president of the St. Louis Medical Society; Past President of the Missouri State Medical Association; first president of Missouri Medical Service; aged 74; died September 19, 1963.

Mendonsa, Elsa L., M.D., University City, a graduate of St. Louis College of Physicians and Surgeons, 1918; member of St. Louis County Medical Society; aged 75; died September 24, 1963.

Williams, Edward B. Jr., M.D., Richmond Heights, a graduate of Meharry Medical College, 1944; member of St. Louis Medical Society; aged 46; died September 25, 1963.

Manting, George, M.D., University City, a graduate of the University of Michigan, 1915; member of St. Louis Medical Society; aged 73; died September 26, 1963.

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News—Personal and Professional

"Chemotherapy for Malignancy" was the subject of a round table luncheon conference led by **David G. Hall III**, M.D., Columbia, at the annual meeting of District VII of the American College of Obstetricians and Gynecologists held at Oklahoma City in September.

As a guest speaker at the Piedmont and Florida Proctologic Society meeting at Daytona Beach, Fla., in August, **Mark M. Marks**, M.D., Kansas City, spoke on "Applied Anatomy of the Inner Rectum" and "Management of Complicated Pilonidal Sinus."

Recently installed president of the medical staff of Deaconess Hospital, St. Louis, is **James Y. Griggs**, M.D. **Frederick M. Martin Jr.**, M.D., was elected vice president and **Robert K. Kurth**, M.D., is secretary-treasurer.

At a meeting of the Northeast Kansas Medical Society in Seneca, Kan., on Sept. 4, **Paul W. Meyer**, M.D., Kansas City, spoke on "Common Athletic Injuries in Football."

The Department of Medicine of the Menorah Medical Center will hold its annual A. Morris Ginsberg Memorial Seminar on Nov. 6 and 7. The guest speakers will be Adolph L. Sahs, M.D., Chairman of the Department of Neurology, University of Iowa School of Medicine, and William R. Wilson, M.D., Associate Professor of Medicine, University of Iowa School of Medicine.

Good Citizen of the Month award was presented to **C. R. Macdonnell**, M.D., Marshfield, by the Marshfield Lions Club at a meeting in September.

The "Broyles Addition" of the Noll Memorial Hospital at Bethany was dedicated on September 8. A memorial plaque honors **Watkins A. Broyles**, M.D., and his late father, F. H. Broyles, M.D.

The American Rhinologic Society presented an Honor Award Certificate of Merit to **Pat A. Barelli**, M.D., Kansas City, at the Academisch Liekenhuis, University of Leiden, Holland, in July.

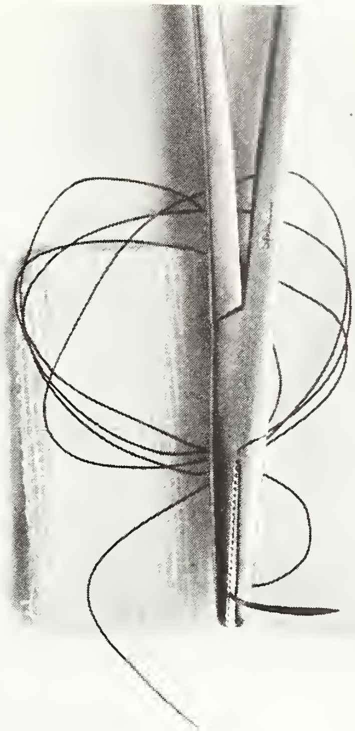
Recently elected president of St. Joseph Hospital, Kirkwood, is **Charles E. Hogancamp**, M.D. **Richard E. Lord**, M.D., was elected president-elect, and **H. C. McMurray**, M.D., secretary-treasurer.

The lecture given each year by the Kansas City Southwest Pediatric Society in honor of E. H. Schorer, M.D., was presented on October 15 by George E. Murphy, M.D., Associate Professor of Pathology at Cornell University. His subject was "Investigation of the Cause and Course of Rheumatic Heart Disease."

Several Missouri physicians participated in the program of the 12th Annual Conference of the U. S. Civil Defense Council held at Rochester, N. Y., October 20 to 25. Those participating were **Carroll P. Hungate**, M.D., Kansas City; **Gwilym S. Lodwick**, M.D., Columbia, and **Carl D. Siegel**, M.D., Sedalia. At the conference **H. M. Hardwicke**, M.D., Jefferson City, and **Dr. Siegel**, were presented the 1963 Pfizer awards for their services in fostering interest in Civil Defense activities.

Among speakers at the third national Conference of NCC-WHO in Washington, D. C., in September, was **Durward G. Hall**, M.D., Springfield.

At a recent meeting of the medical staff of St. John's Hospital, Springfield, **Glenn O. Turner**, M.D., was installed as president. **Howard J. McAlhany**, M.D., was named president-elect; **Chris L. Palcheff**, M.D., secretary, and **Paul L. Pruett**, M.D., treasurer.



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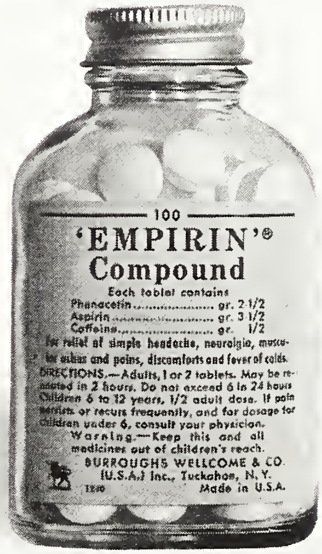
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New Members

Keith H. Averill, M.D., 6400 Prospect Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. Averill is a native of Flint, Mich., received his preliminary education at the University of Michigan, and his M.D. degree at the University of Michigan in 1955. He specializes in cardiology.

Thomas J. Ball Jr., M.D., 268 S. Washington St., Bergenfield, N. J., has become a member of St. Louis Medical Society. Dr. Ball is a native of Cincinnati, Ohio, received his preliminary education at the University of Cincinnati, and his M.D. degree at St. Louis University in 1959. He specializes in internal medicine.

Raymond J. Beidle, M.D., 9440 Midland Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Beidle is a native of Cleveland, Ohio, received his preliminary education at John Carroll University, and his M.D. degree at St. Louis University in 1959. He specializes in pediatrics.

Joseph C. Boveri, M.D., 16 Hampton Village Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Boveri is a native of St. Louis, received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1959. He specializes in obstetrics and gynecology.

Samuel A. Canaan Jr., M.D., 6829 Clayton Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Canaan is a native of St. Louis, received his preliminary education at Iowa State University, and his M.D. degree at Meharry University in 1954. He specializes in opthalmology.

Ned B. Chase Jr., M.D., 3125 Virginia Ave., Joplin, has become a member of Jasper County Medical Society. Dr. Chase is a native of Gary, Ind., received his preliminary education at DePaul University, and his M.D. degree at Indiana Medical College in 1962. He specializes in surgery.

Lawrence A. Coben, M.D., 640 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Coben is a native of Cleveland, Ohio, received his preliminary education at Western Reserve University, and his M.D. degree at Western Reserve University in 1954. He specializes in neurology.

Donald R. Davis, M.D., 4320 Wornall Road, Kansas City, has become a member of Jackson County Medical Society. Dr. Davis is a native of Viroqua, Wis., received his preliminary education at the University of Wisconsin, and his M.D. degree at Temple University in 1946. He specializes in surgery.

Frank J. DePaoli Jr., M.D., 1465 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. DePaoli is a native of Globe, Ariz., received his preliminary education at Tulane University, and his M.D. degree at Tulane University in 1958. He specializes in orthopedics.

Robert H. Duemler, M.D., 11431 Gravois Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Duemler is a native of St. Louis, received his preliminary education at Washington University, and his M.D. degree at Washington University in 1956. He specializes in obstetrics and gynecology.

Morton P. Eanet, M.D., 4825 Troost Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. Eanet is a native of Washington, D. C., received his preliminary education at Yale University, and his M.D. degree at George Washington University in 1951. He specializes in internal medicine.

Harry R. Gilcrest, M.D., 601 S. Brentwood Blvd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Gilcrest is a native of Elyria, Ohio, received his preliminary education at Kent University, and his M.D. degree at Washington University in 1962. He specializes in opthalmology.

Bernard Givertz, M.D., 751 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Givertz is a native of Cleveland, Ohio, received his preliminary education at Western Reserve University, and his M.D. degree at Western Reserve University in 1957. He specializes in internal medicine.

Robert A. Goyer, M.D., 1465 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Goyer is a native of Hartford, Conn., received his preliminary education at Holy Cross College, and his M.D. degree at St. Louis University in 1955. He specializes in pathology.

James W. Hall, M.D., 2025 Swift Ave., Kansas City, has become a member of Clay County Medical Society. Dr. Hall is a native of Watson, Mo., received his preliminary education at the University of Nebraska, and his M.D. degree at the University of Nebraska in 1962. He specializes in general practice.

William W. Haynil, M.D., 2025 Swift Ave.,

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Vith ARISTOCORT Triamcinolone, many sthmatic patients obtain early gratifying elief of wheezing, dyspnea and spasmodic oughing. And maintenance dosage in many ases can be surprisingly low—*often as little s a single 2 mg. tablet per day.* Yet it provides this symptomatic control—which may nable many patients to continue their customary livelihoods or regular household ctivities—with only minimal interference vith other metabolic functions. In this respect, ARISTOCORT Triamcinolone is distinguished compared with other corticosteroids, old and new. Typical steroid problems of sodium retention and edema, euphoria, or voracious appetite and excessive weight gain rarely occur.

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Kansas City, has become a member of Clay County Medical Society. Dr. Haynil is a native of Miami, Mo., received his preliminary education at the University of Kansas City, and his M.D. degree at the University of Missouri in 1962. He specializes in general practice.

Salvatore Hernandez, M.D., 6500 Chippewa St., St. Louis, has become a member of St. Louis Medical Society. Dr. Hernandez is a native of Guadalajara, Jalisco, Mexico, received his preliminary education at Tuxpam Veracruz College, and his M.D. degree at the University of Mexico in 1946. He specializes in orthopedics.

William C. Hummel, M.D., 1108 Morelands Drive, St. Louis, has become a member of St. Louis Medical Society. Dr. Hummel is a native of St. Louis, received his preliminary education at Notre Dame University, and his M.D. degree at St. Louis University in 1961. He specializes in radiology.

Robert F. Hustead, M.D., 9510 Belinder Road, Leawood, Kan., has become a member of Jackson County Medical Society. Dr. Hustead is a native of Pueblo, Colo., received his preliminary education at Yale University, and his M.D. degree at Yale University in 1954. He specializes in anesthesiology.

George A. Koehler, M.D., 3720 Washington Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Koehler is a native of Joplin, Mo., received his preliminary education at Washington University, and his M.D. degree at Washington University in 1958. He specializes in internal medicine.

William C. LaHue, M.D., Lexington, has become a member of Lafayette-Ray County Medical Society. Dr. LaHue is a native of Hamburg, Iowa, received his preliminary education at the University of Missouri, and his M.D. degree at the University of Missouri in 1962. He specializes in general practice.

Jerome F. Levy, M.D., 615 Ashmont Drive, St. Louis, has become a member of St. Louis Medical Society. Dr. Levy is a native of St. Louis, received his preliminary education at Washington University, and his M.D. degree at Washington University in 1958. He specializes in surgery.

Emil F. Miskovsky, M.D., 3720 Washington Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Miskovsky is a native of Passaic, N. J., received his preliminary education at the University of Arkansas, and his M.D. degree at Georgetown University in 1936. He specializes in internal medicine.

Robert W. Moellinhoff, M.D., Washington, has become a member of Franklin-Gasconade-Warren County Medical Society. Dr. Moellinhoff is a native of St. Louis, received his preliminary education at Washington University, and his M.D. degree at the University of Missouri in 1959. He specializes in internal medicine.

Donald H. Morrison, M.D., 2510 Linwood Blvd., Kansas City, has become a member of Jackson County Medical Society. Dr. Morrison is a native of Pomona, Calif., received his preliminary education at Washington University, and his M.D. degree at the University of Kansas in 1955. He specializes in anesthesiology.

Vincent G. Palermo, M.D., 12723 Woodford Way, Bridgeton, has become a member of St. Louis Medical Society. Dr. Palermo is a native of Tampa, Fla., received his preliminary education at Spring Hill College, and his M.D. degree at St. Louis University in 1958. He specializes in pathology.

Raymond E. Probst, M.D., 3934 Watson Road, St. Louis, has become a member of St. Louis County Medical Society. Dr. Probst is a native of Pittsburgh, Pa., received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1959. He specializes in obstetrics and gynecology.

George Rendleman Jr., M.D., 812 Olive St., St. Louis, has become a member of St. Louis Medical Society. Dr. Rendleman is a native of St. Louis, received his preliminary education at Northwestern University, and his M.D. degree at the University of Missouri in 1958. He specializes in surgery.

Harry Revels III, M.D., 802 N. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Revels is a native of St. Louis, received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1956. He specializes in opthalmology.

Donald C. Sanders, M.D., 2635 W. Paseo Blvd., Kansas City, has become a member of Jackson County Medical Society. Dr. Sanders is a native of Kirksville, Mo., received his preliminary education at Northeast Missouri State College, and his M.D. degree at the University of Missouri in 1959. He specializes in anesthesiology.

J. H. Schmidt, M.D., 515 E. High St., Jefferson City, has become a member of Cole County Medical Society. Dr. Schmidt is a native of Jefferson City, received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1955. He specializes in urology.

Guy E. Van Goidsenhoven, M.D., 1402 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Van Goidsenhoven is a native of Louvain, Belgium, received his preliminary education at the Universite Catholique deLouvain Faculte de medicine, and his M.D. degree at the University of Louvain in 1949. He specializes in internal medicine.

Trevor F. Watson, M.D., 1504 E. Broadway, Columbia, has become a member of Boone County Medical Society. Dr. Watson is a native of Quincy, Ill., received his preliminary education at Kansas State University, and his M.D. degree at Johns Hopkins University in 1956. He specializes in obstetrics and gynecology.

George L. Waugh, M.D., 2730 S. Mall, Kansas City, has become a member of Clay County Medical Society. Dr. Waugh is a native of Kansas City, received his preliminary education at Kansas University, and his M.D. degree at the University of Arkansas in 1959. He specializes in obstetrics and gynecology.

Phil A. Webb, M.D., 4312 Nichols Parkway, Kansas City, has become a member of Jackson County Medical Society. Dr. Webb is a native of Hollis, Okla., received his preliminary education at Baylor University, and his M.D. degree at the University of Texas in 1956. He specializes in orthopedics.

Glenn R. Weygandt, M.D., 665 S. Skinker Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Weygandt is a native of Des Moines, Iowa, received his preliminary education at Joplin Junior College, and his M.D. degree at Washington University in 1947. He specializes in anesthesiology.

Jefferson E. White III, M.D., 104 E. Parkway Drive, Columbia, has become a member of Boone County Medical Society. Dr. White is a native of Atlanta, Ga., received his preliminary education at Emory University, and his M.D. degree at Emory University in 1952. He specializes in internal medicine.

Edwin D. Wolfgram, M.D., 4500 W. Pine Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Wolfgram is a native of Maynard, Iowa, received his preliminary education at Iowa State University, and his M.D. degree at Iowa State University in 1959. He specializes in psychiatry.

DR. NEAL HONORED BY GREENE COUNTY

Members of the Greene County Medical Society who are graduates of the University of Missouri School of Medicine held a surprise testimonial dinner at the Holiday Inn, Springfield, August 14, in honor of M. Pinson Neal, M.D., Columbia, who is finishing his long teaching career at the University.

Dr. Neal has been professor of Pathology at the University of Missouri School of Medicine since 1922 and was Acting Dean of the Medical School from 1951 to 1953.

Also in attendance at the dinner were doctors from the surrounding area who were graduates of the University of Missouri School of Medicine.

Dr. Neal in center of group at testimonial dinner.

The Council

The Council met at Hotel Chase-Park Plaza, St. Louis, September 21, 22, 1963, with Byron M. Stuart, M.D., Boonville, Chairman, presiding. Those present were Drs. Stuart; Joseph L. Fisher, St. Joseph; James M. Macnish, St. Louis; Paul R. Whitener, St. Louis; O. B. Barger, Harrisonville; H. W. Benoit Jr., Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Kenneth C. Hollweg, Kansas City; Leonard T. Furlow, St. Louis; Charles R. Doyle, St. Louis; John I. Matthews, Jefferson City; Vernon E. Wilson, Columbia; H. M. Hardwicke, Jefferson City; Joseph V. Finnegan, St. Louis; Stanley S. Peterson, Springfield; H. E. Petersen, St. Joseph; William D. Perry, St. Louis; B. J. Bass, Salem; Messrs. Frank Woolley, AMA, Chicago; Gary Schnedler, Springfield; Edgar Mothershead, Lemoine Skinner, Jordan Singleton, Hollister Smith, Thomas P. Fox, Ray McIntyre, T. R. O'Brien, and Misses Peggy Heilig and Helen Penn, St. Louis.

MISSOURI ASSOCIATION FOR MENTAL HEALTH

Mr. O'Brien read a letter from the Missouri Association for Mental Health requesting him to serve on the board of the organization. On motion of Dr. Hollweg, duly seconded, he was instructed to accept the appointment.

OFFICE LEASE

It was reported that the lease on office space of the Association would soon expire. On motion of Dr. Hollweg, duly seconded, it was voted to renew the lease for a three year period.

STUDENT AMA

Mr. O'Brien said that the Student AMA had asked if the Missouri State Medical Association would be willing to approach the membership for individual sustaining memberships in the Student AMA. After discussion, in which it was pointed out that MSMA is already a sustaining member of SAMA, it was voted on motion of Dr. Furlow, duly seconded, that either a news item or an advertisement without charge be placed in Missouri Medicine.

NATIONAL AMA AUXILIARY PRESIDENT-ELECT

A letter from Mrs. Crispell, president of the Woman's Auxiliary of the MSMA, asking that the Council endorse Mrs. Richard A. Sutter, St. Louis, as a candidate for president-elect of the AMA Auxiliary was read. On motion of Dr. McCraw, duly seconded, it was voted to give this endorsement.

REHABILITATION

A letter to Dr. Hollweg from the Congress of Physical Medicine and Rehabilitation urging that MSMA establish a section on Physical Medicine and Rehabilitation was read. In the discussion, it was pointed out that the Association does not have sections on any phase of medical practice. However, there is a standing Committee on Physical Medicine and Rehabilitation and that while at present the chairman is an orthopedist, and later a physician working in physical therapy might be named chairman. On motion of Dr. Furlow, duly seconded, Mr. O'Brien was asked to answer the letter to that effect.

OVERHEAD EXPENSE INSURANCE

Mr. O'Brien said that there had been inquiries concerning the MSMA having group overhead expense insurance and he was asked to check into the possibilities.

TREASURER'S REPORT

Dr. Doyle gave a financial report up to the present time and said that the Association was operating within its budget. The report was accepted.

FIELD SECRETARY REPORT

Mr. McIntyre reported on several meetings that had been held by societies during the summer months, two on athletic injuries at Poplar Bluff on August 11, and at St. Louis on August 18. He reported a meeting of the Northwest Chapter of MAGP on August 22; a statewide advisory committee meeting on rheumatic fever on September 4; the annual Greene County golf tournament on September 12. He said that the Missouri Health Council would hold a meeting on "Communications" on September 24; the Kansas City Southwest Clinical Conference will convene September 30, October 1 and 2; the AMA Conference on Physicians and Schools October 9 to 12; the Annual Assembly of the Missouri Academy of General Practice in Kansas City on October 26 and 27.

On motion of Dr. Hollweg, duly seconded, it was voted that Mr. McIntyre and Dr. Guy Magness, St. Louis, attend the Conference on Physicians and Schools, and that their expenses be paid by the Association.

MEDICARE

Mr. O'Brien reported that the Medicare contract expires on September 30. He said that since the contract started in December, 1956, there had been 21,331 cases handled in the Kansas City area with $1,599,577.00 paid to doctors, and in St. Louis 29,878 cases handled with $2,389,800.00 paid to doctors. It was agreed that the contract should be continued.

IMMUNIZATION

Dr. Hardwicke said that the government would make money available for the immunization of preschool children. He said that the Division of Health would not directly carry out such a program but would make the information available to physicians and would assist physicians, also making vaccine available when a doctor feels that a patient is unable to pay. He said that at a recent meeting in Washington, D. C., the new Federal Mental Retardation program was discussed and asked advice of the Council. It was decided that the Committee on Infant and Child Care be asked to study this and watch for trends.

DR. VOHS

Dr. Macnish presented the following resolution:

Whereas, The members of the Council of the Missouri State Medical Association, gathered in session in St. Louis this 21st day of September, 1963, are saddened by the loss of our beloved friend, Dr. Carl F. Vohs, and

Whereas, We are filled with pride and gratitude for the countless contributions made by Dr. Vohs to the medical profession and his community during 46 years of practice, remembering his devoted service as President of the state Association, his pioneer efforts in founding both the St. Louis Blue Shield and

blood, milk and Maalox® (magnesium-aluminum hydroxide gel)

Practically standard treatment, now, for bleeding ulcer. Why is Maalox included? Antacid therapy *must* continue long after the wound has healed, and patients started on Maalox tend to stay on Maalox. It tastes good; it's effective and will not cause constipation – three important reasons for Maalox over the long haul. Some physicians, we are told, order Maalox routinely for hospital patients on drugs which could irritate. They feel it reduces the likelihood of gastric discomfort. Supplied: Suspension; Tablets No. 1; Tablets No. 2. (Each Maalox No. 1 Tablet is equivalent to 1 teaspoonful and each Maalox No. 2 Tablet is equivalent to 2 teaspoonfuls of Suspension.)

RATED WHOLE BLOOD
BLOOD UNIT
DO NOT VENT
SUSPENSION
Maalox
ANTACID DEMULCENT
NON-CONSTIPATING
SHAKE WELL BEFORE USING
WILLIAM H. RORER INC

RORER

WILLIAM H. RORER, INC., FORT WASHINGTON, PA.

Blue Cross plans, and his vital role in the battle against polio in the St. Louis area, therefore, be it

Resolved, That the Council expresses to Mrs. Vohs our own deepest sympathies and those of the entire membership of the Missouri State Medical Association.

On motion of Dr. Whitener, duly seconded, the resolution was adopted.

BULLETIN

Dr. Benoit discussed the possibility of a news bulletin going to the membership periodically, especially during a legislative session. The amount of material going to doctors through MISSOURI MEDICINE and releases directly to doctors were reviewed. It was suggested that an insert be used in MISSOURI MEDICINE that could be prepared nearer the time of mailing of the journal. After discussion, on motion of Dr. Furlow, seconded by Dr. Benoit, it was voted that a notice be published in MISSOURI MEDICINE that any member wishing to receive releases on legislative matters, should write the Association office to be placed on the mailing list.

KERR-MILLS

Dr Stanley Peterson reported that there had been a meeting of the State Medical Advisory Committee to the Department of Welfare on the recently enacted legislation to broaden the scope of the Vendor act, or furthering the Kerr-Mills legislation.

He pointed out that the bill furnishes $3,200,000 for drugs, $800,000 for dental care and $9,471,000 for hospital care. He said that there were 15 drugs available under the rules. Dr. Peterson said that he would report further as work progressed.

COMMITTEE ON CONTROL OF VENEREAL DISEASE

The following report of the Committee on Control of Venereal Disease was presented:

The Committee on Control of Venereal Disease met at the Missouri Hotel, Jefferson City, on June 26, 1963. Members in attendance were Drs. E. M. Powell, Springfield; T. A. McMillan, Kansas City and E. A. Belden, Jefferson City. Others in attendance were Dr. Hardwicke, Dr. Meinershagen, Mr. Wilson Cocoran, Dr. Allen of the State Division of Health, and Mr. Raymond McIntyre of the State Medical Association staff.

The Committee met primarily to discuss means of presenting to the physicians of the State of Missouri the problem of the increasing rate of venereal disease. That this need exists was established by the figures from the State Health Department that the projected number of cases of primary syphilis would have increased by 25 per cent over 1962 and by 300 per cent over 1958. That a better understanding of the problem by the physicians in the State of Missouri is needed was explained in a survey co-sponsored by the American Medical Association, the American Osteopathic Association and the National Medical Association. The findings were that 162 physicians treated 309 cases of primary and secondary syphilis. Of these 309 cases, 19 cases were reported to the Health Department, or 6.1 per cent. This figure is not in keeping with the figures of our State Health Department and raises a question of (1) improper diagnosis, (2) reluctance to report cases of syphilis, which is contrary to our state law, or (3) poorly informed physicians, who do not know how to use the facilities available to them in the diagnosis and treatment of this disease.

During the discussion that followed the methods suggested of presenting this to the various societies made it apparent that this would have to vary with the individual areas or individual counties. In some areas this program could be presented to the county medical societies, in others it would of necessity have to be done through the hospital staffs. The one point of agreement was that a printed summary or reprint should be available to have as reference after any program. Dr. Neilson of St. Louis, with the cooperation of Dr. Belden, is in the process of completing such a paper for presentation to the State Journal for publication. These reprints would then be available for distribution at any such program. In Greene County a program is planned in October, which will attempt to show that the increasing rate of syphilis in teenagers is part of a broad social problem, involving juvenile delinquency and illegitimacy. It was felt that the members of the Committee from the different areas would have to spearhead methods of presenting this program to their respective areas, either by themselves or by interesting others to conduct such a program.

The time of future meetings would depend on the number of programs that we can get under way.

It was stated that the article for publication had been prepared and approved and would appear in an early issue of MISSOURI MEDICINE. Dr. Hardwicke said that the Division of Health would purchase 1,500 reprints of the article to be made available to physicians.

On motion of Dr. Hollweg, duly seconded, the report was approved.

LEGISLATION

Mr. O'Brien presented the following report on Missouri legislation affecting the practice of medicine:

Legislation Adopted—Kerr Mills Implementation. S. B. 140 amends Missouri's present Kerr-Mills program regarding the "needy" so that inpatient hospital care may be furnished to persons who are certified by competent medical authority as requiring hospitalization for serious illness or injury for which outpatient care will not suffice, provided, however, that such hospitalization shall not include those persons admitted to a hospital for elective surgery, diagnostic studies and chronic conditions. In addition, certain dental care and prescribed drugs and medicines may be provided.

The cost in state funds will be $4,322,320 for the biennium. The total cost, including Federal funds, will amount to about $10,000,000.

S. B. 148 provides that the Division of Welfare shall establish a Kerr-Mills program for the "near needy." The program shall consist of (1) inpatient hospital care for serious illness or injury for which outpatient care will not suffice; and (2) post-hospitalization, prescribed drugs or medicines for a period not to exceed thirty days after release from the hospital. This bill was vetoed by the Governor following passage by the legislature.

S. B. 142 provides that an Advisory Committee to the director of welfare regarding Kerr-Mills shall consist of 13 members, including the Chairman of the Senate Committee on Public Health and Welfare, Chairman of the House of Representatives Committee on Social Security, one member of the minority party from each committee, at least three physicians, and the others shall be persons interested in hospital administration, nursing home administration, nursing, dentistry and pharmacy.

Medical Examining Board—S. B. 109 adds a new section to the medical practice act, providing for the issuance of a temporary license for one year, without examination, to a person who is not a citizen of the United

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"a tranquilaxant."

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The muscle relaxant properties of this drug provide an extra dimension of effectiveness... relaxing the spasm which so frequently accompanies psychogenic disorders. Hence, the total therapeutic effect of this true "tranquilaxant" is to produce a relaxed mind in a relaxed body.

Unsurpassed Tolerance: Less than 3 per cent of patients develop side effects with TRANCOPAL (chlormezanone-Winthrop), such as occasional drowsiness, dizziness, flushing, nausea, depression, weakness and drug rash. If severe, medication should be discontinued. In most patients, however, side effects are minor and do not necessitate interruption of treatment. There are no known contraindications.

Available: 200 mg. Caplets® (green colored, scored), 100 mg. Caplets (peach colored, scored), each in bottles of 100.

Dosage: Adults, 1 Caplet (200 mg.) three or four times daily; in some patients 100 mg. three or four times daily suffices. Children (5 to 12 years), from 50 to 100 mg. three or four times daily.

Reference: 1. A.M.A. Council on Drugs: J.A.M.A. 183:469 (Feb. 9) 1963.

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States but is legally authorized to practice under the laws of another state, territory or foreign country and who meets such other requirements as the board may prescibe.

S. B. 110 amends the medical practice act by increasing the original license fee from $25 to $50. The annual license renewal fees are increased from $2.50 to $10.00, beginning June 30, 1964. The Board may place a licensee on probation, as well as suspend or revoke a license.

Mental Health—S. B. 56 authorizes the establishment of Psychiatric Intensive Treatment Centers in St. Louis, Kansas City and Columbia. (Dr. Ulett's program.)

Professional Corporation Act—S. B. 108 provides that accountants, architects, attorneys, chiropodists, chiropractors, dentists, optometrists, doctors of medicine and osteopathy, and veterinarians may create a professional corporation. (The act is similar to those adopted in 19 states which were considered by the MSMA Committee on Corporate Practice.)

Legislation Not Adopted—H. B. 200 would have amended the chiropractic act. Chiropractic was to be defined as the science and art of examining and adjusting by hand all of the movable articulations of the human body, especially the spinal column, for the correction of abnormalities and deformities of the human body. X-ray for diagnostic purposes was to be added. (Under present statutes, a chiropractor may palpate or adjust by hand the movable articulations of the spinal column only.)

The chiropractic course was to be for four years rather than three and was to have included the following additional subjects: clinical diagnosis, x-ray and spinography, bacteriology and biochemistry. Passed House—Died in Senate Committee on Economics.

H. B. 47 would have provided that physicians who render emergency care at the scene of an accident would not be liable for any civil damages as a result of acts or omissions by such persons when no fee was charged for services rendered. Passed House—Died on Final Passage Calendar in Senate.

S. B. 264 would have amended statute on privileged communications by physicians. The bill would have provided that in such instances where a civil action had been commenced for bodily injuries or wrongful death a physician and surgeon's testimony would not be privileged in any action brought by the patient, his personal representative, his survivor, or the executor of his estate, wherein the patient's physical or mental condition was an issue. The bill was stricken from Senate "Perfection" Calendar.

H. B. 499 would have established a board to examine and license physical therapists. The legislation was similar to the bill which failed to pass in 1961 except that the board would have been separate from and not under supervision of the Healing Arts Board. Passed House—Died on Senate Final Passage Calendar.

Legislation and the following through that is needed was discussed. Dr. Matthews pointed out that to accomplish anything in the legislature, either to get a bill through or oppose one, took a great deal of ability, effort and time and complimented Mr. O'Brien on his work during the recent session. Dr. Matthews also pointed out that in another session, the completion of the legislature may be different and that physicians themselves will have to do more about it. He suggested that there might be a meeting for presidents and secretaries of component societies at which programming, political action, and state and national legislation could be discussed. The political changes that may occur were discussed. Also political action committees were discussed and it was the consensus that a state plan was the best and Councilors were urged to get their members to contribute to MMPAC. Mr. Woolley discussed the work of AMPAC and discussed national legislation and how AMPAC had been used.

On motion of Dr. Furlow, seconded by Dr. Barger, it was voted that a meeting for presidents and secretaries of component societies be held and that the Chairman of the Council should appoint a committee to work out arrangements.

PROGRAM

Dr. Matthews gave an outline of the program for the 1964 Annual Session.

DEBATE KITS

Mr. O'Brien announced that debate kits for use of high school debating teams on the subject of medical care under social security were available from the MSMA office and that inquiries from students could be referred to the office.

M.U. REFERRALS

Dr. Wilson said that there still seemed to be difficulty in the referring of patients to the Medical Center in Columbia and asked advice about disseminating information on persons to contact. After discussion, on motion of Dr. Hollweg, duly seconded, it was voted to suggest that a listing of department heads be available and sent on request and also sent when referrals were acknowledged.

MSMF

Dr. Furlow gave the following report for the Missouri State Medical Foundation and pointed out that at least $9,000 would be needed at the beginning of the next semester in addition to the funds now available.

Status as of Sept. 20, 1963

Balance on Hand June 5, 1963	$ 6,206.99
Assessment Plus (one donation—$25.00 and one loan repayment of $32.40)	22,970.24
	$ 29,177.23
Loans for First Semester (40 loans) 1963-1964	$ 19,000.00
Balance on Hand Sept. 20, 1963	$ 10,177.23
Total Loans to Date: (224 loans to 105 students)	$104,020.00

PRIVATE MEDICAL ENTERPRISE

Dr. Bass, reporting further on Private Medical Enterprise, said that incorporation papers had been drafted and read them to the Council. He said that the present address was Box 331, Salem, Mo. It was brought out that through this plan, money would be made available by a bank on the payment of interest by an individual. It was pointed out that any outright gifts to the organization should be turned over to the MSMF. Dr. Wilson said that publicity and mailings could be handled at the University.

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On motion of Dr. Stricker, duly seconded, the organization was approved.

AMA

Dr. Hollweg discussed the AMA sessions and said that he thought the delegates needed more help than they had; that members and alternate delegates could be assigned to attend committee hearings for often one or two delegates are on reference committees and it was difficult for the others to get to all hearings. Dr. Petersen stressed that the policy of sending resolutions to other state delegates prior to sessions is important as it is difficult to get to delegates from other states at the sessions.

BOARD OF HEALING ARTS

Dr. Perry discussed the recently enacted legislation concerning the Board of Healing Arts. He said there is a possibility of a suit being brought against the Board over its decision regarding members of the osteopathic group who received M.D. licenses in California. Dr. Perry asked if the Council had changed its attitude in that regard and was assured that it had not. Dr. Perry asked if the Association would assist with legal help if suit was brought. On motion of Dr. Furlow, duly seconded, it was voted to tell Dr. Perry that the Association will do what is necessary to help in case the suit is brought.

TEMPORARY LICENSE LAW

Dr. Perry said that the Board was working on rules and regulations on the new law permitting temporary license. He said these would be presented to the Council when complete. He said one regulation would be that no one would be licensed on a temporary basis beyond the time of possibility of obtaining citizenship.

BUDGET COMMITTEE

Dr. Stuart appointed the following Budget Committee: Dr. Doyle, Chairman; Drs. Furlow, Hollweg, Barger, McCraw and Stuart.

MEDICINE AND RELIGION

Dr. Stuart appointed the following Committee on Medicine and Religion: Dr. Whitener, Chairman; Drs. Kenneth Glover, Mount Vernon; Robert M. Myers, Kansas City; Wayne O. Gorla, St. Louis; Morris Alex, St. Louis, and Robert Duncan, Springfield.

PRESIDENTS AND SECRETARIES MEETING

Dr. Stuart appointed the following committee to work out arrangements for the meeting of presidents and secretaries of component societies: Dr. Matthews, chairman; Drs. Furlow, Barger and Benoit.

DRIVER LICENSE EXAMINATIONS

Dr. Fisher called attention to the liability a physician could incur when he is called upon to examine an applicant for a driver's license. It was decided that this needed further study.

COUNCILORS' REPORTS

Dr. Macnish reported that the St. Louis Medical Society is planning an exhibit at the Bicentennial Celebration in 1964 and would appreciate being lent anything of historical medical interest. He said the Society was beginning its postgraduate course in the near future.

Dr. Whitener said that the St. Louis Medical Society and St. Louis County Medical Society will cooperate in giving oral polio vaccine. He said that the *Post-Dispatch* had carried a story about the Society's Past 65 Plan.

Dr. English mentioned the excellent program on athletic injuries held in Poplar Bluff, August 11.

Dr. Benoit stated that a meeting would be held in Kansas City, September 24 at which "Operation Barnstormer" will be shown. This is the new AMPAC film about political action.

Dr. McCraw reported that a similar meeting will be held in Springfield, September 30.

NEXT MEETING

It was decided to hold the next meeting of the Council on December 7 and 8, with the Budget Committee meeting in the evening of December 6.

BYRON M. STUART, M.D., *Chairman*

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County Society News

FIRST DISTRICT

JOSEPH L. FISHER, ST. JOSEPH, COUNCILOR

Buchanan County Medical Society

The first fall meeting of the Buchanan County Medical Society was held following a dinner at St. Joseph State Hospital the evening of September 4. Seventy-five St. Joseph and area doctors attended the event.

Dr. F. G. Thompson, III, program chairman, introduced the speaker, Dr. George A. Ulett, Director of the Division of Mental Diseases for the State of Missouri. Dr. Ulett outlined Missouri's ten-year plan for mental health, noting progress already made and giving plans for the future. At the conclusion of the program, upon motion of Dr. George Forman, chairman of the Missouri State Medical Association's Committee on Mental Health, the physicians present gave a rising ovation of appreciation and confidence to Dr. Ulett and Dr. Manson B. Pettit, Hospital Superintendent, for the progress shown in Missouri's mental health program and the operation of the St. Joseph hospital.

William Redmond, M.D., *Secretary*

Grand River Medical Society

On September 12, forty-three members, wives and guests gathered at the Strand Hotel in Chillicothe for the first medical society meeting since June.

After dinner the wives assembled upstairs for their meeting and the doctors were pleased to hear Jack Sanders, M.D., Jefferson City speak on "Rheumatic Fever Today." Dr. Sanders' discussion was well received.

The meeting adjourned following a brief business meeting.

Besides Dr. Sanders, guests included Milton Davis of Pittman-Moore and James F. Rensing of Ciba.

Jack L. Vinyard, M.D., *Secretary*

SECOND DISTRICT

HARRY L. GREENE, HANNIBAL, COUNCILOR

Chariton-Macon-Monroe-Randolph County Medical Society

A regular monthly dinner meeting of the Chariton-Macon-Monroe-Randolph County Medical Society was held at the Woodland Hospital in Moberly on Thursday night, September 12. The scientific program for the evening was presented by William T. Newton, M.D., Chief of the Surgical Service, VA Hospital, St. Louis, and Assistant Professor of Surgery at Barnes Hospital. His subject was, "Immunology of Tissue Transplantation." The main part of his discussion concerned the transplantation of a kidney from one person to another. He pointed out that the most successful of such transplants to date are in identical twins.

Members present were: Dr. F. L. Harms, Chariton County; Drs. D. E. Eggleston, Gretchen Collins, James Campbell and Carl Rinker, Macon County; Dr. F. A. Barnett, Monroe County; Drs. Josephine Baker, Avery P. Rowlette, J. Will Fleming Jr., Thomas S. Fleming, Robert H. Young, W. Deward Chute, C. C. Cohrs, C. C. Smith, L. E. Huber, Robert Hasson and P. V. Dreyer, Randolph County. Leopold Lachance, M.D., Centralia, was a guest.

J. Will Fleming Jr., M.D., *Secretary*

Pike County Medical Society

Richard Dames, M.D., St. Louis, presented the scientific program at a meeting of the Pike County Medical Society in Louisiana on Tuesday evening, September 24. Dr. Dames discussed the subject, "Rheumatic Fever Today."

His was an interesting and informative talk.

E. L. Jackson, M.D., *Secretary*

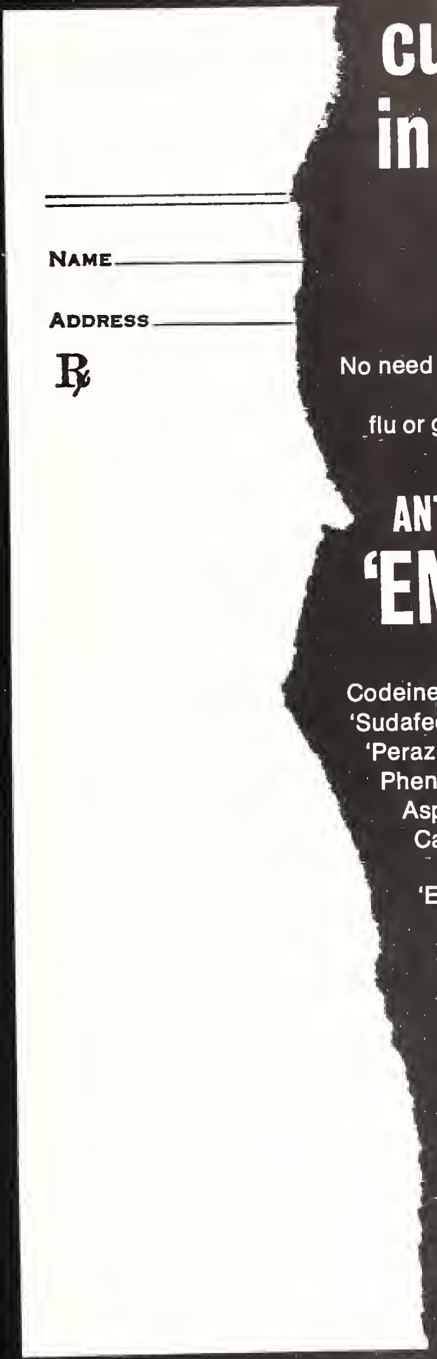
FOURTH DISTRICT

PAUL R. WHITENER, ST. LOUIS, COUNCILOR

Lincoln-St. Charles County Medical Society

James P. Murphy, M.D., St. Louis, spoke at a dinner meeting of the Lincoln-St. Charles County Medical Society at the Southern Air in Wentzville on Tuesday night, September 24. His subject was, "Rheumatic Fever Today." He included in his talk information on recent surveys made in Missouri relative to rheumatic fever as well as a discussion of some of the programs in other states now being promoted and carried on for the control of this problem.

Robert J. Fleming, M.D., *Secretary*



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SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

Lafayette-Ray County Medical Society

The regular meeting of the Lafayette-Ray County Medical Society for doctors and wives was held on September 10 at Maib's Cafe, Lexington. Following dinner, the group discussed several subjects. The most enjoyable of these subjects was presented by Tom Cook, M.D. His subject concerned the use and disuse of telephones or how to practice medicine when your phone is out of order. Dr. Wilbur Fulkerson discussed problems of integration. A business meeting was not held.

Wayne Boydston, M.D., *Secretary*

West Central Missouri Medical Society

The West Central Missouri Medical Society and the doctors' wives held a dinner meeting at the Harrisonville Hotel in Harrisonville on Thursday night, September 12. Festivities for the evening began with a social hour followed by dinner and then the program.

"Radioactive Isotopes" was the talk given by Ned B. Gorrell, M.D., radiologist of Nevada, which was under the sponsorship of the Missouri Academy of General Practice.

Carter Luter, M.D., *Secretary*

NINTH DISTRICT

E. A. STRICKER, ST. JAMES, COUNCILOR

Mid-Missouri County Medical Society

A dinner meeting of the Mid-Missouri County Medical Society and the doctors' wives was held in the Pine Room at the Greyhound Bus Station at Rolla, Thursday night, September 26. The scientific program was presented by William Shieber, M.D., St. Louis, who spoke on, "Implications of the Lymphatic System in Clinical Practice."

Physicians and their wives of the Fort Leonard Wood Clinical Society received special invitations to this meeting. This particular program was well received by those in attendance.

M. K. Underwood, M.D., *Secretary*

TENTH DISTRICT

W. D. ENGLISH, CARDWELL, COUNCILOR

Mineral Area County Medical Society

Donald Mehan, M.D., St. Louis, Department of Urology, St. Louis University Medical School, spoke at a meeting of the Mineral Area County Medical Society at the State Hospital in Farmington on Thursday night, Septmeber 26. The subject of his talk was, "The Use of Chromosones in Clinical Practice." This was an interesting and informative presentation.

C. W. Chastain, M.D., *Secretary*

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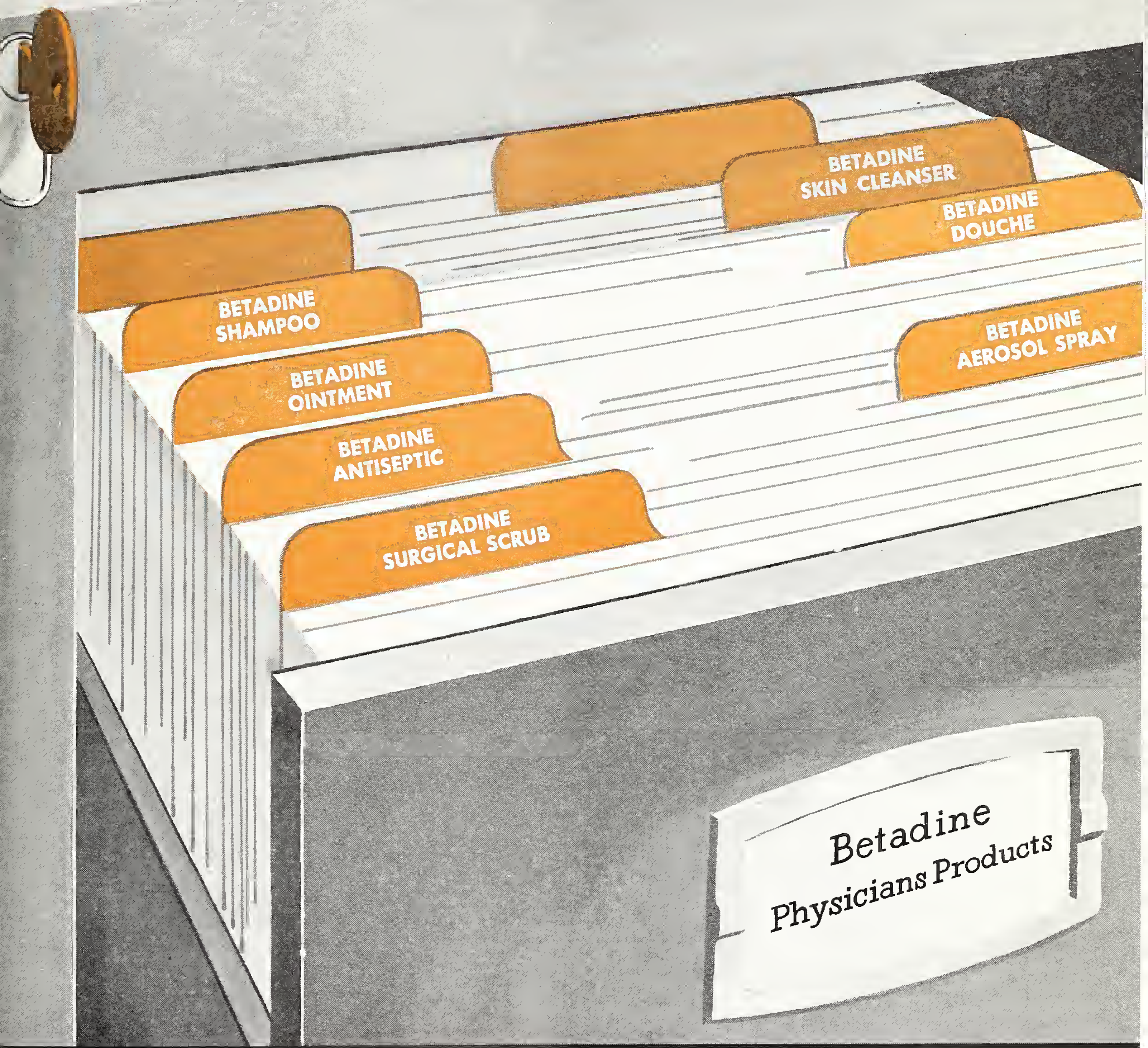
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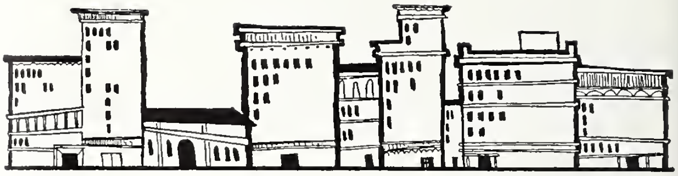

ST. LOUIS UNIVERSITY

Promotions

The following faculty promotions have been announced by the Rev. Edward J. Drummond, S.J., vice president for Medical Center at St. Louis University.

Professor: Dr. Maurice Green, microbiology; Dr. Morton M. Weber, microbiology, and Dr. Vallee L. Willman, surgery.

Associate Professor: Dr. Ralph K. Earp, clinical orthopedic surgery; Dr. J. Wendell Davis, clinical orthopedic surgery; Dr. Milton R. Israel, clinical ophthalmology; Dr. Thomas Mier, clinical gynecology and obstetrics; Dr. Maurice B. Roche, clinical orthopedic surgery; Dr. Dermott A. P. Smith, clinical psychiatry.

Assistant Professor: Dr. Matthias H. Backer Jr., gynecology and obstetrics; Dr. William H. Bailey, clinical ophthalmology; Dr. James L. Donahoe, clinical pediatrics; Dr. Jack R. Eidelman, clinical psychiatry; Dr. Leonard F. Fagan, pediatrics; Dr. Max Jellinek, biochemistry; Dr. Robert L. Korn, clinical pediatrics; Dr. Raymond J. LaDriere, clinical pediatrics; Dr. Robert J. Leider, psychiatry; Dr. Clyde R. Milster, clinical ophthalmology; Dr. William H. Riley, clinical pediatrics; Dr. Arthur A. Siniscal, clinical opthhalmology; Dr. Kuang-Mei Wang, pharmacology.

Senior Instructor: Dr. Donald O. Burst, orthopedic surgery; Dr. Udaya N. Dash, orthopedic surgery; Dr. Thomas T. Flynn, psychiatry; Dr. Anna Hyman, psychiatry; Dr. Luis F. Lau, psychiatry; Dr. Richard Lord and Dr. Andrew M. Luh, orthopedic surgery; Dr. John J. McNamara, radiology; Dr. James W. Nofles, ophthalmology; Dr. William S. Stryker, psychiatry; Dr. John B. Sutphin, pediatrics, and Dr. Tyrus D. Winter, gynecology and obstetrics.

Instructor: Dr. Paul A. Byrne, pediatrics; Dr. Arthur A. Hines, psychiatry; Dr. Jerome L. L'Ecuyer, pediatrics; Dr. James M. Martin, radiology; Dr. Edwin H. Schmidt, psychiatry; Dr. Ernest H. Teagle, surgery, and Dr. Frank Valach, gynecology and obstetrics.

Founders Week

A clinical academic program featuring medical school faculty was held for University medical alumni on October 18. The program was held in Miller Hall, Firmin Desloge Hospital, 1325 S. Grand Blvd., beginning at 9:15 a.m. with an address of welcome by Dr. G. O. Broun Sr., dean.

The morning program featured a panel on "Objectives of Catholic Medical Education," which opened at 9:30 a.m. Participants were the Rev. Edward J. Drummond, S.J., vice president for Medical Center; Dr. Edward T. Auer, director, Department of Psychiatry and Neurology; Dr. Thomas F. Frawley, director, Department of Internal Medicine; Dr. C. Rollins Hanlon, director, Department of Surgery, and Dr. James P. King, director, Department of Pediatrics.

The clinical program opened at 11:00 a.m. with a paper entitled "Current Treatment of Hypertension" by Dr. James G. Janney, director of the Section of Plastic Surgery; "Hand Injuries," 11:15 a.m., Dr. William A. Knight Jr., chief, Section of Gastroenterology; "Pathophysiology and Screening for Pancreatic Disease," 11:30 a.m. and Dr. John F. Schweiss, chief, Section of Anesthesiology, "Management of the Tetanus Patient," 11:45 a.m.

The Seventh Workshop sponsored by the Catholic Hospital Association for x-ray supervisors and technicians will be held in St. Louis Monday, November 11, through Friday, November 15. The week long workshop will feature twenty-six authorities in the field of radiology, pediatric surgery, anesthesiology, hospital administration and physics.

A welcome by the Rev. John J. Flanagan, S.J., executive director of the Catholic Hospital Association, will open the program featuring both St. Louis University faculty and invited lecturers. Sessions will be held at 1438 S. Grand Blvd. Dr. Armand E. Brodeur, associate dean at the School of Medicine, will give closing remarks and award the certificates.

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Pentaerythritol tetranitrate may infrequently cause nausea and mild headache, usually transient. Slight drowsiness may occur with meprobamate and, rarely, allergic reactions. Meprobamate may increase effects of excessive alcohol. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction. Like all nitrate-containing drugs, 'Miltrate' should be given with caution in glaucoma.

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Trips

Dr. G. O. Broun Sr., dean, School of Medicine, presented the St. Louis University Alumni charter to club officers at the Hawaii Cannon Club in Honolulu on August 4. Dr. Broun was also honored at a Medical Alumni Dinner on August 7 at which he reviewed developments at the School of Medicine. He spoke on "Encephalitis" at the Straub Clinic and also lectured on "Influenza" before the residency staff at Triple Army Hospital. During his visit to the Hawaiian Islands, he also met with alumni at Kauai, Hilo and Maui.

Dr. C. Rollins Hanlon, director, department of surgery, attended a meeting of the Surgery Study Section of the National Institute of Health September 4 to 6.

Dr. Alrick B. Hertzman, director, department of physiology at St. Louis University School of Medicine, attended an "International Conference on Medical Electronics" which met at the Palace of Congress in Leige, Belgium, July 20 through July 25.

Dr. George E. Gantner, associate professor of pathology, spoke before the annual seminar of the National Association of Coroners, which met at the Chase-Park Plaza Hotel. Dr. Eugene F. Tucker, assistant professor of pathology, spoke before the same meeting on "From Medical Viewpoint."

Grants

The United States Public Health Service has awarded the School of Medicine $349,192 to be used for reconstruction of surgery research laboratories and equipment. Included in the building activities, to be carried out under this health research facilities award, will be complete reconstruction of the area devoted to animal care.

Dean G. O. Broun has announced that $330,350 was awarded for construction and fixed equipment, while $18,842 was given for movable equipment.

The new facilities will be located on the fifth floor of the School of Medicine. The surgical research laboratories are under the direction of Dr. C. Rollins Hanlon, director of the department of surgery, assisted by Dr. Vallee Willman, professor of surgery.

Dr. Sidney A. Thayer, professor of biochemistry, has received notification of a two year renewal from the Public Health Service in the amount of $32,000 for the support of a research study on sex hormones. Total Public Health Service allotments for the support of the study, begun by Dr. Thayer several years ago, now total $52,000. Mr. George Tremblay, a graduate student in the Edward A. Doisy department of biochemistry, has been working on the investigation with Dr. Thayer for the last two years. Rats are being used in the investigation.

The research grant is for the study of the effect of sex hormones on the activity of aspartate transcarbamylase in uterine tissue, and enzyme involved in the biosynthesis of ribonucleic and desoxyribonucleic acids.

This enzyme and the nucleic acids are important in rapidly growing tissues, both normal and abnormal. The studies may aid in determining the mechanisms of hormone action.

Dr. Thayer's interest in research in the sex hormone field started in 1925 while he was a graduate student working for his Ph.D. degree under the direction of Dr. Edward A. Doisy Sr., Nobel Prize laureate. In 1929 they isolated and characterized theelin and theelol. These female hormones were later named estrone and estriol. Since their isolation, the compounds have been used for the successful treatment of many ovarian disorders in women.

Meetings

Theme of the fall meeting of the St. Louis University Hospitals Auxiliary which met October 16 in the Knights Room of Pius the Twelfth Memorial Library was "The Seal and Its Significance." Invitations mailed to all members bore the imprint of a newly designed seal with the words, "St. Louis University Hospitals Auxiliary" encircling the traditional University crest.

Mrs. F. Joseph Pfeffer, president of the auxiliary, presided at the meeting moderated by Mr. John B. Warner Jr., Director, St. Louis University Hospitals.

Guest speakers and their topics were: Dr. G. O. Broun Sr., dean, St. Louis University School of Medicine, "The Auxiliary and St. Louis University Hospitals"; the Rev. Edward J. Drummond, S.J., vice president, St. Louis University Medical Center, "The Auxiliary and St. Louis University Medical Center," and the Very Rev. Paul C. Reinert, S.J., president, St. Louis University, "The Auxiliary and St. Louis University."

The St. Louis University Hospitals Auxiliary contributes volunteer services to both Firmin Desloge Hospital and David P. Wohl Memorial Mental Health Institute.

Alumni Reception

An alumni reception will be held during the Southern Medical Association meeting in New

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*Donnelly, J.: A.M.A. Arch. Environmental Health 6:697, June, 1963

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New Brunswick, N. J.

Orleans November 17 to 22. Mr. William C. Trigg Jr., executive secretary, Medical Alumni Association, announces that a reception honoring Dr. Daniel L. Sexton, president, Southern Medical Association, will be held on Tuesday evening, November 19 in the Red Oak Room of the Roosevelt Hotel. Alumni and wives are invited to the reception to be held from 5:00 to 6:30 p.m. Dr. Sexton, a 1924 medical alumnus, is associate professor of clinical medicine at the School of Medicine.

UNIVERSITY OF MISSOURI

M.D. Day Scheduled November 15, 16

The fourth annual M.D. Day at the University of Missouri School of Medicine will involve scientific programs on November 15 and 16, a social hour and dinner coordinated by the University of Missouri Medical Alumni Association on the evening of November 15, a buffet luncheon at the University of Missouri Medical Center at noon on November 16 and a football game between the University of Missouri and the University of Oklahoma at Memorial Stadium on the afternoon of November 16.

This year the University of Missouri School of Medicine and the University of Oklahoma School of Medicine faculties are presenting the scientific program. Friday's program covers "Hyperventilation Syndrome: Etiology, Manifestations, and Treatment"; "Poisonous Snakebites—Diagnosis and Treatment"; "Some Considerations of Acute Renal Failure"; "Arterial Occlusive Disease"; "Surgical Treatment of Venous Thrombosis"; "Pelvic Pathology—Gross Diagnosis at Laparotomy"; and a panel discussion on "What's New in Hypertension?" The program on Saturday morning involves a talk on "Nutritional Anemias in Adults" and a Clinical Pathological Conference. Those faculty members from the University of Oklahoma who are participating are Robert M. Bird, M.D., Professor and Acting Chairman, Department of Medicine; Irwin H. Brown, M.D., Director, Office of Postgraduate Education, and Assistant Professor of Surgery; Mark R. Everett, Ph.D., Director and Dean of the School of Medicine and Medical Center;

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C. G. Gunn, M.D., Associate Professor of Medicine and Physiology; James A. Merrill, M.D., Professor and Head of the Department of Gynecology and Obstetrics; William L. Parry, M.D., Professor and Head of the Department of Urology; and G. Rainey Williams, M.D., Associate Professor of Surgery.

From all indications this fourth M.D. Day will be the most successful yet held. All medical doctors are invited to join their colleagues in Columbia for this two-day schedule of postgraduate education, fun, and football.

Grants Awarded

Dr. F. Eugene Doenges, associate professor of the Department of Anatomy, as principle investigator, with Dr. Robert Russell, associate professor of the Department of Pharmacology, as coinvestigator, has been awarded a U.S.P.H. research grant for two years of approximately $14,500.00. The grant is entitled, "Drug induced efferent activity in cervical vagus nerve."

Dr. James A. Green, associate professor of the Department of Anatomy, has been awarded $11,378 by the National Institutes of Health to pursue a research project which is a continuation of the electron microscope study of the human ovary which has been carried on over the last two years in the election microscope laboratory at the University of Missouri Medical Center.

Trips and Talks

Dr. Herbert E. Brown, associate professor of the Department of Anatomy, returned September 1 from a year's sabbatical leave spent at the Department of Anatomy and Radiobiology laboratories of the University of Utah. While there he assisted in teaching medical histology and conducted manometric experiments on the effect of cortisol on the respiratory metabolism of three specifically labeled radioactive isotopes of glucose by lymphocytes.

Dr. David G. Hall, associate professor of obstetrics and gynecology and chairman of the Department of Obstetrics and Gynecology, attended the meeting of the American Association of Obstetricians and Gynecologists in Hot Springs, Va., Sept. 4 through 8.

Dr. Laszlo Kovacsi, former resident in urology at the University of Missouri; Dr. Ian M. Thompson, professor of urology, and Dr. John F. Porterfield, assistant professor of pathology, presented their report on original research involving autograft replacement of the uretero-pelvic junction of the kidney at the North Central Section meeting of the American Urological Association in Chicago on Sept. 13, 1963. Dr. Thompson presided as a moderator of a panel on pediatric urology at the same meeting on Sept. 14.

Kenneth K. Keown, M.D., professor of anesthesiology at the University of Missouri Medical Center, attended the meeting of the Tulsa County Medical Society in Tulsa, Okla., on September 9. About 150 physicians attended the meeting and "Preparation of the Geriatric Patient for Anesthesia and Surgery" was the topic of discussion.

Dr. Fernando Tapia, associate professor of child psychiatry at the University of Missouri, spoke at a meeting of the Parent-Teacher's Association in Boonville on September 10. The topic discussed was the obligations and opportunities for school systems in the field of mental health for children and about 150 people attended.

Frank B. Engley Jr., Ph.D., professor and chairman of the Department of Microbiology, attended a National Conference on Hospital Acquired Infections at the University of Minnesota on September 4 through 6 in Minneapolis. The University of Minnesota School of Public Health and U. S. Public Health Service sponsored the meeting attended by 250 professional people.

Dr. M. H. Ivey, assistant professor of the Department of Microbiology, returned from a year's sabbatical leave which he spent at Tulane in New Orleans.

Dr. Herbert S. Goldberg, professor of microbiology at the University of Missouri School of Medicine, attended the Gordon Research Conference on antimicrobial agents August 19 to 23. The meeting was in New Hampton, N. H. He also visited while in the East, the Department of Bacteriology, Rutgers University, Albert Einstein College of Medicine, V.A. Hospital, Batavia, N. Y., and on return the Department of Microbiology, Michael Reese Hospital in Chicago, Ill.

CLASSIFIED ADS

WANTED—Associate in General Practice in a two-man Modern Clinic Building. Town of about 7,000 in Missouri Ozarks. Modern hospital available. Contact Rollin H. Smith, M.D., West Plains, Missouri.

FOR SALE—Dermatologist wants to sell office equipment, instruments, quartz lamp, microscope. Reasonable prices. For information, write Box 281, c/o Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Missouri.

PHYSICIAN NEEDED in progressive community in North West fringe of Ozarks where new lake area is now a Government project. Excellent trade area and town of 8,000 with 50 bed general hospital. Now have 5 general practitioners and 1 general surgeon in area who will assist proper individual in any way to become established. If interested, contact Richard H. King, M.D., 106 S. Third Street, Clinton, Mo.

FOR SALE—Laboratory supplies, glass slides, reagents, syringes, microtomes, knives and others by retired pathologist. For list write Box 294, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Missouri.

FOR SALE—Modern office, laboratory and x-ray equipment. Southeast Missouri farming area with associated commerce. Population 2800 with incorporated school system. Middle class practice. $55,000 gross; Staff privileges. Specializing. Write Box 288, c/o Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Mo.

WANTED—Certified or Board eligible internist to join four certified internists in well-rounded clinic group. Kansas. For further information contact Box 291, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Mo.

A well organized and well balanced Clinic is in need of a young GP. Attractive hours and working conditions. Generous salary to start with an annual increase leading to a full partnership. The Clinic is established in a 160 bed hospital located in the Ozark area of Southeast Missouri. For further information, write Box 292, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Mo.

FOR SALE—Used medical equipment. Equipment was used by general practitioner in small community. Most of the equipment less than year old. The equipment now owned by estate, price very reasonable. Write or call Ray N. Fowler, Administrator, 101½ S. Main, El Dorado Springs, Missouri. UPton 6-3614.

PHYSICIAN WANTED—La Belle, with a population of 866 in a large territory is without a medical doctor. Splendid opening in this progressive, modern, Northeast Missouri town. Contact Selbourne Skirvin, Mayor, La Belle, Missouri.

WANTED—GENERAL PRACTITIONER. Generous starting allowance with progressive partnership arrangement if satisfactory. Progressive community near Kansas City. Write Box 296, c/o Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Mo.

CARDIOLOGIST, fully trained will interpret electrocardiograms by mail. Contact Box 293, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Missouri.

FOR SALE—Established Pediatric Practice, city of 80,000 located west side of Missouri. Downtown office and equipment negotiable. Two hospitals. Will introduce. Leaving city for new career 200 miles away. For information contact, Judson M. Hughes, M.D., 206 Kirkpatrick Building, St. Joseph, Missouri.

ASSOCIATE WANTED—EENT Certified Senior Board man wants associate to join him short time then wants to retire. Large area, no competition. Beautiful country—good hospital. Write Box 295, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Mo.

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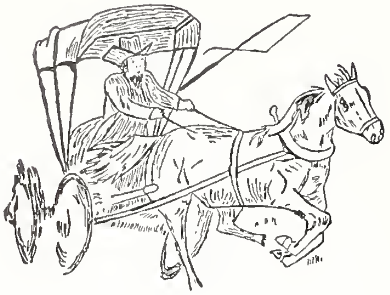
Missouri Medicine in Review



FORTY YEARS AGO

The Nobel prize in medicine for 1923 has been awarded to Drs. H. G. Banting and J. T. R. Macleod, of Toronto, for their discovery of insulin.

Slowly but surely the courts are allowing science to creep in and aid them in sentencing offenders. Dr. David I. Jones, city physician and alienist of Chicago, is sitting on the bench with Judge John F. Haas and is gathering material through a rigid psychoanalytical examination of speeders for recommendations for a law authorizing a mental test for all applicants for automobile licenses.

The "Panel Doctors' Union," an organization of several hundred British physicians, will strike on January 1, if plans made in London recently are carried out. The physicians serve 15,000,000 men and women contributors to the national Health Fund. For each patient on their lists the physicians receive 9s 6d annually. The Minister of Health has proposed a cut in fees to 8s 6d.

In the dedication of the new $225,000 building of the Koch Hospital group for care of tuberculous patients, St. Louis is making one more step forward in safeguarding public health. The hospital has a capacity of 120 beds and $20,000 has been expended on its equipment.

At the Annual Fall Festival, Concordia, Mo., October 4, 5, 6, a Child Health Conference was conducted and in conjunction, to stimulate popular interest, a hygeia contest for the healthiest and best developed, not the prettiest, baby over 6 months and under 2 years. A handsome prize was awarded the winner.

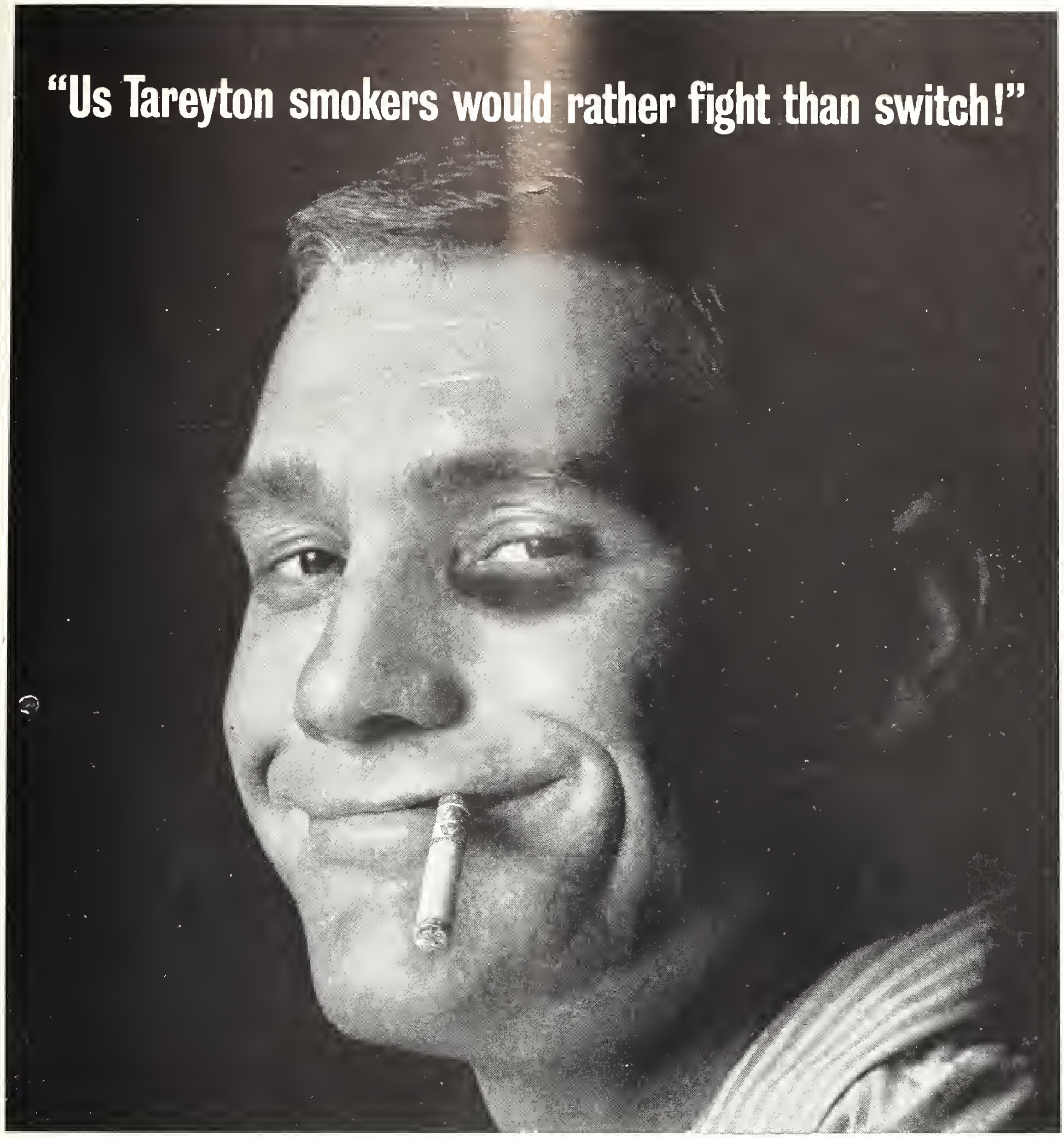
A campaign is to be launched in Springfield in November to raise $150,000 to enlarge Burge Hospital there, so that it will have 70 or 100 beds instead of the present inadequate 33. At the present time, Springfield is much under-provided with hospitalization. There is now only one bed to every 350 inhabitants and there should be one for every 150 population. Last year Burge Hospital was forced to turn away several patients each day. Over 50 per cent of the cases cared for by the hospital were from outside Springfield.

TWENTY-FIVE YEARS AGO

Dr. E. J. Goodwin, St. Louis, Secretary-Editor of the Missouri State Medical Association since 1910, upon his request to be relieved of his duties, was elected Secretary-Editor Emeritus for life by the Council at a meeting in Jefferson City, August 31. Dr. Goodwin was first identified with the Association in 1902 when he became associate recording secretary and official reporter of the Association. He is dean of secretaries and editors of state medical associations, having served longer in those capacities than has any other man in this country. Previous to 1910, the Association had no office, all records being kept in the office of the Secretary. In 1910 an office was established at 3525 Pine Street in the building then occupied by the St. Louis Medical Library Society, a separate organization from the St. Louis Medical Society. In 1924, the Association moved to the Missouri Theatre Building, the first tenant of the building after its completion.

A PWA grant of $409,090 toward construction of the Ellis Fischel Hospital for indigent cancer patients at Columbia has been announced by Mr. F. T. Hodgdon, Hannibal, chairman of the State Cancer Commission. Together with the appropriation voted by the Missouri State Legislature there will be $909,090 available for the new hospital.

During the first eight months of 1938 there were 128 cases of diphtheria and two deaths. This is a decrease of 78 per cent of the number of cases and 90 per cent in the number of deaths. Of all St. Louis children who died in 1937 of diphtheria, 94 per cent had not been immunized with toxoid or tested for immunity.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Five cases of Rocky Mountain fever were reported to the State Health Department during a six weeks period in August and September. One fatality was reported in St. Louis although it is probable that this case originated in St. Clair County. Two cases were reported from Cape Girardeau, one from Jackson County and one from Clark County. Two of these cases were disclosed in routine tests of specimens sent in to the State Laboratory. Rocky Mountain fever is most prevalent in the western states. The last case previously reported in Missouri was in 1933.

Fifteen per cent of Missouri's births are not registered, according to the most recent report of the Bureau of Vital Statistics.

TEN YEARS AGO

The newly formed Clay County Health Department, approved at a midsummer election, was organized with S. R. McCracken, M.D., Excelsior Springs, as one of the members.

At the recent Missouri State Fair in Sedalia, the following physicians were seen visiting the State Association's exhibit on "You Can Reduce": Drs. R. E. Harrell and B. B. Hurst, Lebanon; John E. Lamy and Carl Siegel, Sedalia; Martin P. Hunter, Kansas City; G. C. Plummer, Buffalo; William R. Richardson, Union, and P. V. Siegel, Smithton.

Dr. F. D. Murphy, Dean of the University of Kansas School of Medicine, started a movement to increase the number of physicians of the 1951 class; more than three fourths have located in Kansas. How did he do this? In 1950 and 1951 nearly 80 graduates began practice in towns having a population of 1,500 or less. We need to launch a similar campaign. We want about fifty young doctors to locate in rural Missouri annually for the next ten years.

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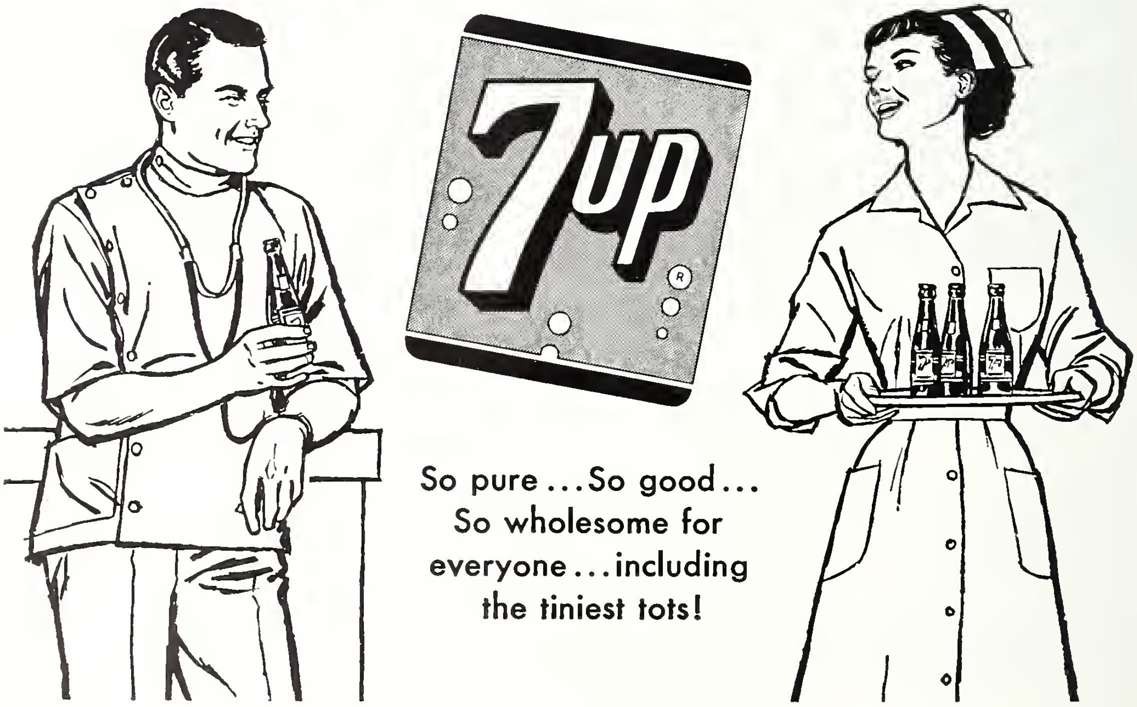

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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All material other than scientific should be received prior to the first of the month preceding month of publication.

Please give notice of change of address at least one month in advance of the change, giving old and new addresses.

WASHINGTON

King-Anderson Hearings November 18-27

On October 29, Wilbur D. Mills (D., Ark.), Chairman of House Ways and Means Committee, announced that the Committee had scheduled public hearings on H.R. 3920, the King-Anderson bill, to begin on Monday, November 18, 1963. In making this announcement, Congressman Mills stated that the hearings would include testimony on: (1) the adequacy of medical programs under existing law (Kerr-Mills Act); (2) the extent and adequacy of coverage under private or non-governmental health insurance programs; (3) the President's proposal to finance certain health care costs for the aged through increased social security taxes (the King-Anderson bill); and (4) proposed alternatives. It was also announced that the hearings would be concluded by Wednesday, November 27.

Active support of the measure was expected from the AFL-CIO and most of its member unions, and the labor sponsored National Council of Senior Citizens. The AMA and many of its constituent societies were to testify in support of Kerr-Mills and other existing mechanisms for caring for those aged in need. In addition, opposition to King-Anderson was expected from allied medical groups and other organizations and individuals supporting voluntary mechanisms. Chairman Mills announced that the hearings would begin with Administration officials testifying in support of the measure. They would then be followed by the public witnesses testifying for and against the proposal. It appears that the Committee will have even greater difficulty scheduling witnesses this time than they had two years ago since it has invited testimony in four specific areas, including "alternative proposals."

The Association submitted a written statement in opposition to H.R. 3920. A copy of the statement will be published in a later issue of Missouri Medicine.

Mental Health Bill Signed

On Thursday, October 31, S. 1576, Mental Retardation Facilities and Community Mental Health Centers Act of 1963 was signed into law (PL 88-164) by the President.

HEW Statement Regarding "Krebiozen"

The federal government has, in effect, branded the so-called cancer drug krebiozen as worthless.

Boisfeuillet Jones, special assistant to the secretary of Health, Education and Welfare, said in a letter to Dr. Stevan Durovic, sponsor of the controversial substance, that a "scientifically unimpeachable" Food and Drug Administration analysis of krebiozen "casts strong suspicion" on claims for it as a cancer treatment.

The FDA announced September 7 that it had analyzed a sample of krebiozen powder furnished by Durovic and found it to be creatine, a substance naturally present in the human body and considered worthless in treatment of cancer.

In a September 11 letter to the FDA, Durovic challenged the analysis. He said studies made for him by "two reputable independent laboratories" disagreed with five of the FDA findings.

Replying to the Durovic letter, Jones said the FDA analysis was "scientifically unimpeachable." He also placed full responsibility on Durovic and Dr. Andrew C. Ivy, his chief backer, for any consequences of withdrawing the drug from patients who have taken it.

"We are fully sympathetic with those patients who believe that krebiozen is necssary for the maintenance of health and life," Jones wrote. "You and Dr. Ivy have encouraged their belief; you made krebiozen available to them with claims of benefit. . . . The full moral responsibility for the consequence is yours. . . .

"Tests made by the FDA demonstrate that creatine is only slightly soluble in mineral oil and that the creatine which you provided and called krebiozen is soluble to exactly the same extent."

Federal Aid for Construction of Medical Schools and Loans to Medical Students Adopted

The federal government has a new $235 million program that will provide financial aid for construction of medical schools and loans to medical students.

The Senate in mid-September passed by a vote of 71 to 9 the Administration's medical education bill in the identical form that the House had approved it earlier. President Kennedy promptly signed it into law.

Before approving the bill, the Senate rejected by a 43 to 39 vote an amendment that would have forgiven part of the loan to a student if, after graduation, he practiced in an area where

(Continued on page 1134)

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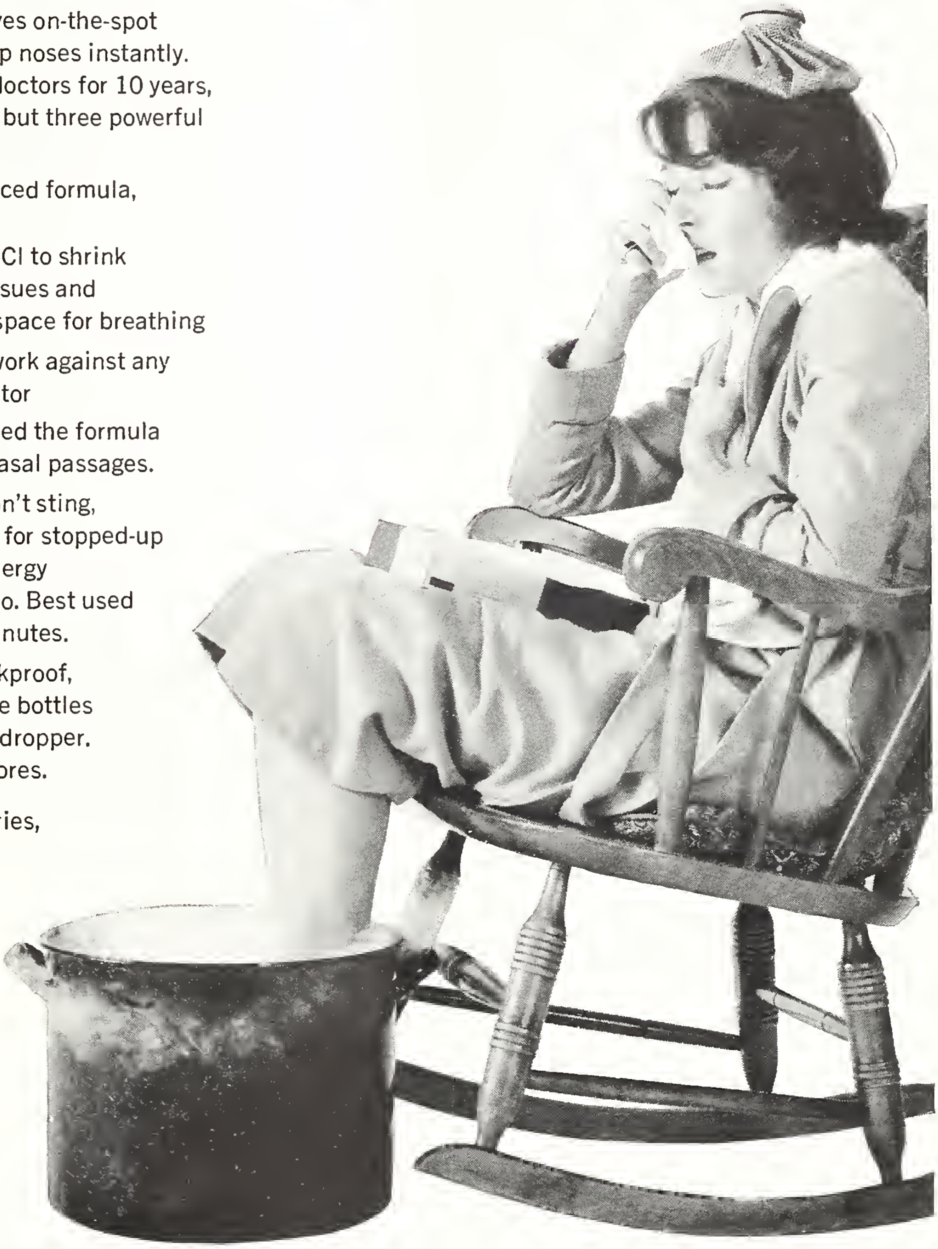

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Across
Missouri

MARION-RALLS-SHELBY MEDICAL SOCIETY SABIN ORAL VACCINE PROGRAM

The first mass immunization program in Missouri, using the Sabin oral poliomyelitis vaccine, was held under the auspices of the Marion-Ralls-Shelby County Medical Society, Sunday, October 13. More than 33,000 persons out of a potential of 42,000 received the Sabin Type I oral vaccine that day.

All persons in the two counties were eligible to receive the vaccine, though no one, regardless of home location, was turned away. The vaccine was given at 16 centers in the two counties, 10 of which were located in Hannibal. Each person was asked to donate a minimum of 25 cents to defray costs. However, any person who was unable to pay received the vaccine without charge.

A second clinic, at which time the Sabin Type III vaccine was used, was held Sunday, November 10. The third and last clinic will be held on December 8, at which time the Sabin Type II vaccine will be given.

All expenses were defrayed by the Marion-Ralls-Shelby County Medical Society, including the cost of the vaccine, printing, advertising and records. Four hundred seventy-five persons, including physicians, nurses, druggists and others volunteered their services.

ST. LOUIS CITY-COUNTY SABIN ORAL VACCINE PROGRAM

St. Louis City and St. Louis County Medical Societies have formed the City-County Medical Charities, Inc., 8003 Forsyth, Clayton, as the agency to handle the first mass polio immunization program in the area. Each of the societies has loaned $5,000 to this agency to help defray original costs.

Drs. Malcolm B. Bawell and Guy N. Magness were appointed cochairmen of the Sabin on Sunday Polio Immunization Campaign. It was anticipated that one million persons in the area would receive the vaccine on Sunday, November 24. The second Sabin on Sunday date is Sunday, January 26, 1964.

The doctors of the community, members of the St. Louis and St. Louis County Medical Societies, sponsored the campaign as a civic service and as a demonstration of the continuing advance of medical science. It was announced that more than 300 feeding stations, mostly public school buildings, were used. Each station was to have been manned by a doctor, nurse, druggist and other volunteers.

No charge was to be made for the vaccine though donations of 50 cents were requested in order to defray the costs of the vaccine and other expenses.

City-County Medical Charities, Inc. is a non-profit organization to promote the betterment of health care in the community. The board of directors is made up of the following: Malcolm B. Bawell, M.D., President; Guy N. Magness, M.D., Vice President; Mr. Edgar J. Mothershead, Secretary; Mr. Hollister S. Smith, Treasurer; Robert A. Mayer, M.D., Charles S. Sherwin, M.D., Miles C. Whitener, M.D., J. Otto Lottes, M.D., Harold J. Freiheit, M.D., Oliver E. Tjoflat, M.D., Daniel T. Rosenstein, M.D., and David N. Kerr, M.D.

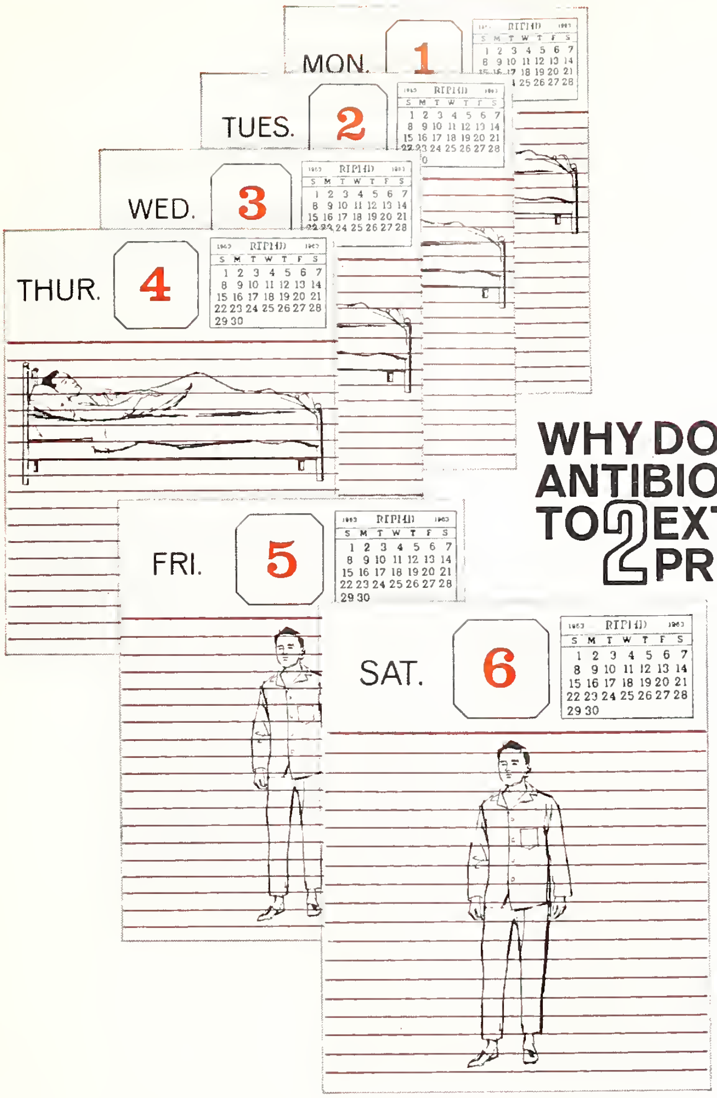
WHO MAY VOTE IN MISSOURI?

According to the *St. Louis Globe-Democrat*, October 17, "nearly 300,000 of the 930,000 persons over 21 years of age in St. Louis and St. Louis County, or almost one-third, are not registered to vote."

If these figures are true of the St. Louis area, one wonders how this compares with other parts of the state, particularly, Jackson, Greene, Clay, Buchanan and Jasper counties voting registrations.

The state constitution says who may vote in Missouri: All citizens of the United States, including occupants of soldiers' and sailors' homes, over the age of twenty-one who have resided in this state one year, and in the county, city or town sixty days next preceding the election at which they offer to vote, are entitled to vote at all elections by the people. Citizens of the United States who are otherwise qualified to vote under this section and who have resided in this state sixty days or more, but less than one year, prior to the date of a presidential election may

(Continued on page 1140)



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C. G. STAUFFACHER, M.D., Secretary

Missouri Academy of General Practice

The 15th Annual Scientific Assembly of the Missouri Academy of General Practice was held at the Hotel Muehlebach in Kansas City on Saturday and Sunday, October 26 and 27, 1963. The scientific program for the two day session included symposiums on "Physical Medicine and Rehabilitation," "Eye, Ear, Nose and Throat Problems," "Neurology," and "The Management of Related Medical-Surgical Problems." A total of 16 guest speakers took part in the program.

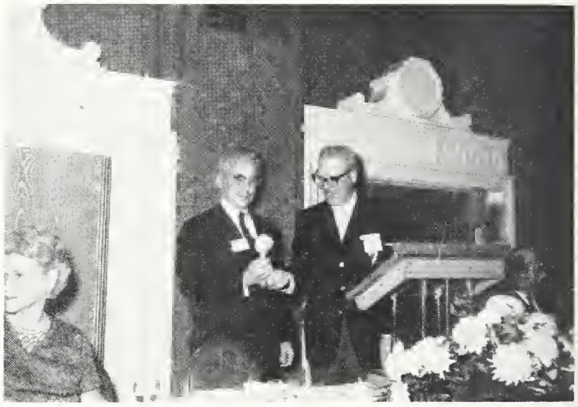
Physical Medicine and Rehabilitation Panel visit with President Gunn and Dr. McCraw of the Education Committee.

Though the total registration of doctors at this meeting was less than usual, the percentage of those present attending the symposiums was almost 100 per cent. Many comments expressed indicated that this year's scientific program ranks with the best the Academy has presented.

Senator Cason received the Academy Award from Dr. Gunn.

On Saturday night, October 26, the Annual President's Installation Banquet was held in the Colonial Ball Room. The featured speaker for the evening was Hans G. Clamann, M.D., Brooks AFB, Texas. Dr. Clamann is Chief, Department of Bioastronautics, School of Aerospace Medicine at the Base. His interesting discussion was implemented by numerous slides and a short movie.

At this banquet session, presided over by Dr. Walter T. Gunn of St. Louis, President of the Academy, the Academy's Annual Citation Award for outstanding leadership in the improvement of health care in Missouri was again presented to an outstanding Missourian. The recipient this year was State Senator William J. Cason of Clinton, Missouri, who was honored for his legislative efforts on behalf of state programs of health care for needy and near needy elderly persons. Senator Cason, an attorney, was chairman of the 1962 Interim Committee of the Legislature which investigated the medical needs of Missouri's aged and was author of bills passed by the 1963 General Assembly which further implement the Kerr-Mills Act in Missouri. Senator Cason is currently chairman of the Senate Committee on Public Health and Welfare and was instrumental in passage of bills for the establishment of three intensive treatment centers for mentally disturbed persons in the State.



Dr. Gunn presented the gavel to incoming President Carrier.

One of the official duties of President Gunn on

(Continued on page 1138)

How can Johnson's Baby Lotion help the doctor, the mother and the baby?

Johnson's
baby
lotion
Johnson & Johnson

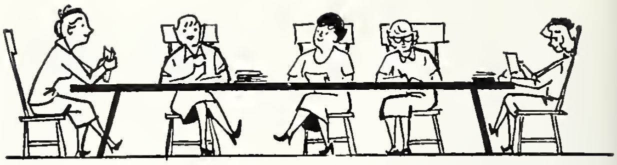
The doctor knows the young mother wants to do everything in her power to keep her baby clean and happy and in good health. And more and more evidence points to the fact that the physical expression of her love for her baby is not only a delight to the mother and pleasant for her child, but an essential element in the development of a mature, self-reliant adult.* A father as well as a physician, he knows that Johnson's Baby Lotion not only makes changing diapers easier and more pleasant for all concerned, but that the antibacterial effect of its hexachlorophene content (0.5%) persists for days, to protect the baby's delicate skin from rashes and infections. With Johnson's Baby Lotion normal skin functions are unaltered because the protective film is aqueous rather than occlusively oily. These are some of the reasons so many physicians recommend Johnson's Baby Lotion for routine use to protect delicate skin. May we send you samples of this superior antibacterial emollient in the convenient new plastic bottle?

*Donnelly, J.: A.M.A. Arch. Environmental Health 6:697, June, 1963

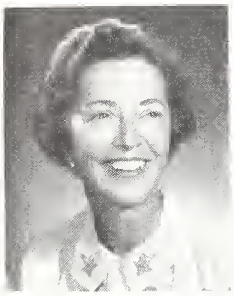
Johnson & Johnson

New Brunswick, N. J.

Woman's Auxiliary



When we attend a meeting such as the recent National Fall Conference in Chicago, we are again reminded that skillful planning is indeed necessary to make this an excellent and productive workshop.



Mrs. L. S. Crispell

Beginning with a mock election on Sunday evening to call attention to the number of people involved in election activities and ending with Wednesday morning's program at the AMA headquarters when Dr. Ernest B. Howard, M.D., Assistant Executive Vice President of AMA, spoke on Auxiliary and AMA projects and two films "The One Who Heals" and "The Cry for Help" were shown, these were really full days of instruction and discussion. Mr. Lyman J. Smith, a Director of AMAERF, pointed out that under AMAERF the bill will be paid by the borrower whereas under the government program, everyone will be paying the bill.

Mrs. John Wagner, Chairman of the Publications Committee, announced that in the spring the *National Bulletin* would have a new look and a new approach to inspire greater interest. Mr. Jack Schreiber, a member of the AMA Speaker's Bureau, said the most important argument against Fedicare is "It is not needed" and that we are not being told the whole truth about the cost and our loss of freedom. He also warned that the full heat of pressure will be in the future and that more than ever, we must be on the alert. If we promote "Operation Hometown" on the county level, we will be working together in the cause of freedom. Mrs. Marilyn Benson, of the AMA Program Services Department, reminded us to provide good copy of general interest in our publicity and to see "that the light is turned in the right direction."

It was a pleasure to hear the Rev. Dr. Paul B. McCleave again. We heard him speak in Atlantic City in June on the relationship of medicine and religion. This new department of the AMA has been established to prove medicine's concern in the total health of the patient. We are asked to invite ministers' wives to our meetings and tell them of our concern. Dr. Andrew J. Toman, Coroner of Cook County, Illinois, urged our cooperation in the Auxiliary's suicide prevention program.

The presidents and presidents-elect had an opportunity to discuss Auxiliary problems and ideas. We were divided according to the population of our states, but I do not think that it is necessary since every state has large and small groups, urban and rural areas. Later we met in smaller sections to discuss specific items in membership, bylaws, finances, parliamentary procedure and reports. By now all of our members have received the brief summary I prepared for our own meeting on these programs and other information sent out by national chairmen.

Before we gathered for luncheon on Tuesday, we paused to see and hear Mrs. C. Rodney Stoltz, our National President, being interviewed on television. We were all proud that such a gracious and charming woman was representing us and telling a national hook-up about Auxiliary aims. Mrs. Stoltz will be our guest in St. Louis at the Convention in March.

On October 23 and 24, Jasper County members were hostesses for our own Fall Conference in Joplin at the Mickey Mantle Holiday Inn. Forty women attended the sessions. On Wednesday afternoon, Mr. Roscoe Swain, Program Representative for Health Mobilization in the Missouri Division of Health, spoke on the Medical Self-Help Course. Bitsy Calkins, President-Elect, gave a summary of National Conference subjects and Betty Sutter, National North Central Regional Vice President, spoke on membership and other aspects and then moderated an excellent general discussion in which everyone participated. The afternoon's program concluded with a talk by Dr. William Jackson Wilson, pastor of the First Community Church in Joplin and President of the Western Division of the Jasper County Mental Health Association. He presented many interesting facts on suicide prevention and gave us valuable information for working with this program.

Our guest for dinner, Dr. Kenneth C. Hollweg, President of the Missouri State Medical Association, brought greetings and pointed out the im-

(Continued on page 1154)

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Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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M. T. KUBIN, M.D., *and*
JOHN S. SPRATT JR., M.D., ***Columbia***

Current Operation of the Ellis Fischel State Cancer Hospital

The policies and operating procedures at the Ellis Fischel State Cancer Hospital are given as information for physicians who refer patients to the hospital.

Dr. Kubin, Colonel MC USA (retired) is Medical Superintendent of the Ellis Fischel State Cancer Hospital and Dr. Spratt is Chief Surgeon.

The purpose of this communication is to acquaint the Missouri physician with the current organization, services and policies of the Ellis Fischel State Cancer Hospital in hope that this information will be of use toward the continued cooperative efforts between referring physician and hospital staff for the betterment of patient care. The hospital, now in its twenty-third year of operation, increased the number of patients served by 20 per cent during the last year and had the opportunity to serve the patients of one out of every three practicing physicians in the state.

Organization

The Hospital is an administrative unit within the Division of Health as outlined in the Constitution of the State of Missouri adopted February 27, 1945. The Cancer Commission, a board of four voters appointed by the governor, advises the Division of Health on professional standards to be followed within the hospital and recommends the appointment of the various members of the senior medical staff. The senior medical staff is responsible for the internal operation of the hospital and the provision of patient services. Employee policies are governed by the State Merit System regulations.

Service

The Hospital provides service only to the medically indigent residents of Missouri. The patients are physician referred and are declared to be medically indigent by the presiding judge in the county of residence. The indigency of the patient is therefore ascertained in his own community, and the Cancer Hospital staff sees only those patients on whom a completed application has been received. This arrangement permits the Cancer Hospital to serve those patients requiring state service and insures that no competition will occur between the Cancer Hospital and the excellent private medical services available in the state. The Cancer Hospital staff does provide mail or telephone consultation without fee to physicians who request information.

Service to the New Patient

Service to the cancer patient is the primary function of this Hospital. This service begins with the receipt of an application for admission. Each application is reviewed by a member of the staff to ascertain the urgency of the problem.

The maximum permissible period of delay before being seen at the Cancer Hospital is indicated on the application for guidance in scheduling admissions. Any reference to previous biopsies, surgery or roentgentherapy, or associated illnesses, is noted in the information contained in the application. If this information is pertinent to complete patient care and evaluation, a form letter (fig. 1) is sent out. The response to this letter is extremely rewarding and much of the requested material is received at the Hospital and reviewed before the patient ever arrives. Duplication of effort and delay in evaluation are prevented frequently by this expediency. Indigent cancer patients having acute emergency problems may be referred by a telephone call to the Hospital from the family physician on a bed available basis.

Applications then go to the social service director. The distance to be traveled, the availability of transportation, the relative medical urgency of the patient's problem, the community medical facilities available to the patient while awaiting transfer and the anticipated availability of beds at the Cancer Hospital are all taken into consideration in scheduling admissions. Because of these same important considerations, plus the added relation of the patient's condition at discharge to the home situation, discharges are also scheduled through Social Service. This unit control over admissions and discharges insures the maximum utilization of bed space and the Hospital operates at near 100 per cent occupancy (table 1).[3]

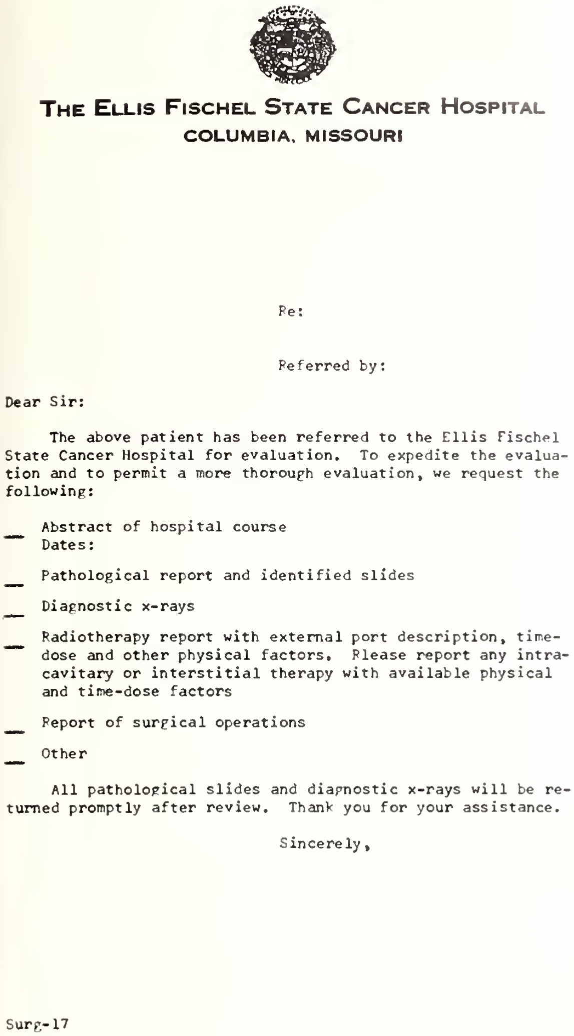
New patients are requested to be at the Cancer Hospital at 8:00 a.m. on the day of admission. Upon arrival, the chart is opened and a clinic flow sheet is attached (fig. 2). A complete social service interview with patient and family is carried out. The information recorded is of inestimable use in keeping families informed, planning for home or community care after discharge and for subsequent follow-up.[3] During the ensuing morning the new patient has a complete history and physical examination recorded. Regardless of the principal complaint, all commonly used out-patient cancer detection examinations are carried out on each individual. The problem of multiple primary cancers is currently under study here and a preliminary survey indicates that from 5 to 10 per cent of the patient population harbor more than one cancer. Thus, a gentle-

TABLE 1

PATIENT CARE STATISTICS FOR 1941-1963

Inpatient Statistics							Outpatient Statistics	
Year	*Patients Admitted*	*Mean Daily Occupancy**	*Mean Hosp. Stay (Days)*	*Receiving Radio-therapy*	*Receiving Chemo-thearpy*	*Surgical Operations (Inpatient)*	*Outpatient Visits*	*Surgical and Diagnostic Operations*
41-42	1614	83.8				1090	5253	
42-43	1587	87.2				1146	4970	
43-44	1459	91.2				1096	5358	
44-45	1425	85.8				1095	5539	
45-46	1145	64.0				1051	5603	
46-47	1116	75.0				1089	6174	
47-48	1371	88.9				1097	6477	
48-49	1356	92.0				1172	6788	
49-50	1382	98.0				1290	7695	
50-51	1571	95.0				1508	8813	
51-52	1320	97.0	26.9			1376	9297	
52-53	1235	85.0	25.8	248		1219	9111	
53-54	1388	94.4	24.8	283		1474	8859	
54-55	1256	94.0	28.6	252		1440	9202	
55-56	1433	95.3	24.4	291		1402	7464	
56-57	1524	96.0	23.1	300		1464	7273	
57-58	1516	96.0	22.2	288		1334	7269	
58-59	1457	98.0	24.6	314		1631	7499	
59-60	1551	96.0	22.8	301		1539	7314	
60-61	1431	95.0	24.2	325	90	1376	7507	1898
61-62	1573	95.9	23.7	325	208	1545	8001	2831
62-63	1936	98.6	18.5	399	294	1892	8838	3520

* Total number of hospital beds available for occupancy is 104.



THE ELLIS FISCHEL STATE CANCER HOSPITAL
COLUMBIA, MISSOURI

Re:

Referred by:

Dear Sir:

The above patient has been referred to the Ellis Fischel State Cancer Hospital for evaluation. To expedite the evaluation and to permit a more thorough evaluation, we request the following:

__ Abstract of hospital course
Dates:

__ Pathological report and identified slides

__ Diagnostic x-rays

__ Radiotherapy report with external port description, time-dose and other physical factors. Please report any intracavitary or interstitial therapy with available physical and time-dose factors

__ Report of surgical operations

__ Other

All pathological slides and diagnostic x-rays will be returned promptly after review. Thank you for your assistance.

Sincerely,

Surg-17

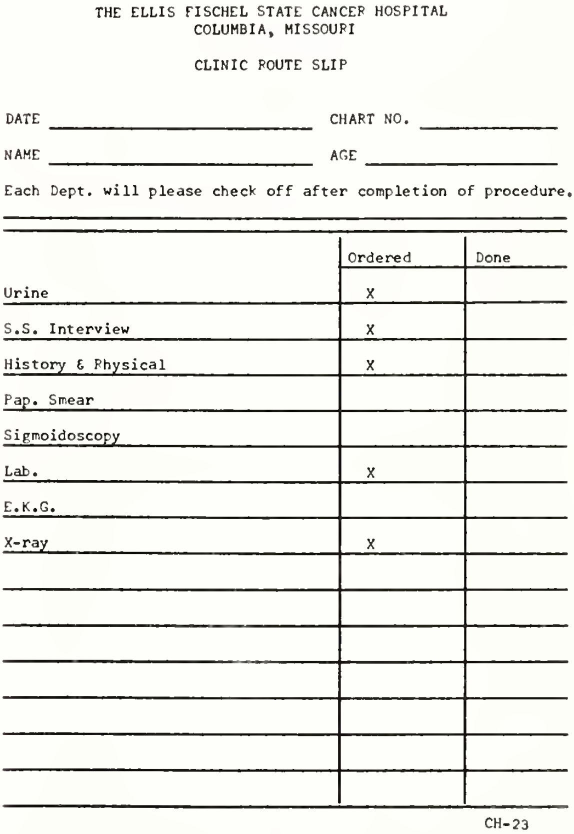
Fig. 1

man presenting with a small basal cell cancer of the face and no other complaints may have an asymptomatic cancer of the rectosigmoid and only a sigmoidoscopic examination will find it. Basic laboratory procedures, a chest x-ray, an electrocardiogram and other indicated procedures that can be performed on outpatients are all carried out during the morning.

Beginning at 12:30 p.m. the patients are presented to a combined staff conference. Here the team approach to the management of cancer assumes great importance. The internist, pathologist, radiotherapist and surgeons discuss each problem individually for the planning of subsequent work-up and treatment. In the 1962-1963 year, 2,395 patients were thus screened and of these 1,936 were admitted to the hospital. Most of those not admitted had their problem attended to without the need for inpatient care, as by the excision of a small skin cancer or the reassurance of patients having the fear of cancer but no evidence of it.

A few patients are referred to the Cancer Hospital with advanced or terminal cancer. These are evaluated fully. If neither definitive therapy nor palliation can be offered, the referring physician is so advised and arrangements are made in coordination with social service for home or community care. The Cancer Hospital has never had funds nor space to accommodate these unfortunate individuals and available beds are reserved for patients who can derive benefit from inpatient care and treatment. Improvement in the home or community care of indigent cancer patients through the cooperation of family physicians and district and county public health facilities is under continuing study by the Division of Health.

The service record of the Cancer Hospital is recorded in table 1. Increased emphasis on outpatient work-up, the more expeditious and complete procurement of information regarding previous work-up and treatment, and the augmentation of personnel essential to the accomplishment of various inpatient procedures have permitted the reduction in the length of hospital stay significantly during the last year. The current average of 18.5 days for the entire hospital



THE ELLIS FISCHEL STATE CANCER HOSPITAL
COLUMBIA, MISSOURI

CLINIC ROUTE SLIP

DATE ____________ CHART NO. ____________

NAME ____________ AGE ____________

Each Dept. will please check off after completion of procedure.

	Ordered	Done
Urine	X	
S.S. Interview	X	
History & Physical	X	
Pap. Smear		
Sigmoidoscopy		
Lab.	X	
E.K.G.		
X-ray	X	

CH-23

Fig. 2

is skewed by the inclusion of radiotherapy patients. Radiotherapy patients are retained as inpatients because of the distance between hospital and home and the lack of domiciliary care facilities. Many hospitals provide radiotherapy predominantly to ambulatory outpatients and some courses of radiotherapy require one or two months. Comparatively, the national average for the length of hospital stay in short stay hospitals for patients having malignant neoplasms is 14.5 days for patients under 45 years of age, 15.4 days between ages 45 and 64 and 17 days past age 65 years.[2] The current Ellis Fischel average stay on the surgical service is 12.9 days, the radiotherapy service 46.3 days and medical service 19.7 days. The median age of the Ellis Fischel State Cancer Hospital patient population is currently 69 years. For the many elderly patients treated here the reduction in the length of hospital stay is beneficial from the standpoint of rehabilitation. The quite elderly tolerate poorly prolonged separation from family, friends and home environment.

The service capabilities of the Cancer Hospital have been increased greatly during the last several years by the remodeling and enlargement of the operating room suite, centralization of supplies in a new and more efficient unit, the addition of autoanalyzing equipment to the central laboratory, an automatic film processing unit to diagnostic radiology, more efficient and modern examining equipment in the outpatient clinic, the rewiring of the building and the improvement of nursing unit facilities requisite for better patient care. With these improvements the Cancer Hospital facilities can accommodate from 3,200 to 3,700 inpatients per year by the addition of an economical 40 bed domiciliary care unit to care for those ambulatory patients requiring protracted courses of treatment. This group of patients is also sorely in need of diversionary activities in the form of an occupational therapy or rehabilitation unit.

SERVICE TO THE OLD PATIENT

Since 1940 the Cancer Hospital has cared for 32,040 different patients. Of these, more than half are still living. The chronicity of cancer as a disease necessitates the periodic reexamination of these patients. First, they are at risk to develop a recurrence or metastasis; second, to develop a problem related to their original treatment; third, to develop a cancer of some other site; and fourth, to develop an intercurrent disease requiring attention to insure continued physicial well-being. The day to day needs of the patient and the distance between the Cancer Hospital and the various parts of the state require that follow-up care be coordinated with the family physician and the local health services. The first step in this coordination is the transmittal of a summary of the hospital stay to the family physician as soon as possible after the patient is discharged. Letters are sent regarding any change in disease status or outpatient treatment. The hospital staff does not issue prescriptions directly to patients. Rather, enough medication is dispensed to last the patient until he has the opportunity to secure the necessary prescription from his family physician, who has been advised by letter of the suggested medication. The hospital staff answers many queries regarding old patients, either by letter, telephone or personal contact. As each year passes the responsibilities to old patients continue to accumulate. One regularly sees old patients that have been attended intermittently since the hospital opened; some for the periodic treatment for new crops of skin cancers, some for multiple primary visceral cancers. These patients understand the need for periodic reexamination. The hospital and clinic patient to patient contact is of distinct psychologic benefit to the cancer prone individual. He acquires improved insight and decreased fear of his disease through this "group therapy." Presently, about 8,800 outpatient visits per year are made to the Cancer Hospital clinics. The scheduling of these clinics and insured follow-up is coordinated through the social service department as described elsewhere in this issue of MISSOURI MEDICINE.[3]

EDUCATION

The Cancer Hospital staff engages actively in a number of educational programs. The Cancer Hospital has a Group III and IV surgical residency program approved by the Council on Medical Education of the AMA, and a cancer program and tumor registry approved by the American College of Surgeons. Affiliate residents currently rotate to the Cancer Hospital from Washington University, the University of Missouri, St. Louis City Hospital, St. Louis County Hospital and the Jewish Hospital of St. Louis. Cancer Hospital residents rotate to the surgical service at the University of Missouri. Depending on the number of residents in the parent program, the hospital also receives from time to time residents from other approved training programs within the state. During this rotation the affiliating residents receive a concentrated experience in cancer management. They also profit by working in cancer follow-up clinics of every type. They get to see the good results but are also confronted with the problems of caring for patients with incurable cancer. For the first time many of these residents learn that cancer is indeed a chronic disease requiring care long after hope for cure by primary therapy has passed.

Each summer the hospital receives medical students from various medical schools in the United States and Canada who are members of the Commissioned Officers Student Training and Extern Program of the USPHS. These students are introduced to the various disciplines concerned with the detection and treatment of cancer. Senior medical students at the University of Missouri having an interest in cancer may take their senior elective clerkships at the Cancer Hospital. During the current year, eleven senior clerks are taking this elective. The Cancer Hospital staff also participates in student lectures and conferences at the University.

In cooperation with the University, the Cancer Hospital has participated in monthly Cancer Demonstration Clinics during the last two years for practicing physicians in the state. These two day clinics on the applied aspects of cancer diagnosis and treatment are conducted monthly for small groups of physicians.

A similar program for public health and institutional nurses is offered by a one week orientation into special nursing problems presented by the cancer patient. This is held monthly.

The recognition of cancer as a chronic disease and a major public health problem both from the standpoint of mortality and prevalence has resulted in the addition of cancer control officers to the section on chronic diseases in many state health departments during the last several years. The cancer control programs in most states are embryonic and inadequate numbers of detection and treatment facilities for the indigent cancer patients exist in these states. The first Cancer Control Officer for the State of Missouri was appointed in 1962 and the Cancer Hospital staff set up for him a six month period of indoctrination in cancer detection and treatment with rotations on clinics, chemotherapy, pathology, radiotherapy and surgery. He studied and revised the post-treatment follow-up system for cancers of the cervix uteri.[1] Since returning to the Division of Health, he has continued to study the nursing home care of cancer patients in the state and has improved the liaison existing between various community care facilities and the Cancer Hospital. As a result of practical experience acquired at the Cancer Hospital he is better qualified to provide practitioner and lay education in cancer detection.

A meeting of the Consulting Staff is held twice yearly. The program consists of the presentation of the results of clinical research at the Cancer Hospital, supplemented by guest speakers or panelists. The entire consulting staff and any physicians interested in cancer are invited to attend.

Research

Service and education, however, are not the only functions of the Cancer Hospital. As outlined in Section 7 of the enabling legislation passed by the 59th General Assembly, the State Cancer Hospital shall conduct "such scientific research as will promote the welfare of indigent patients committed to its care." Though this stipulation exists in the law, the State of Missouri has never had the funds to support research and development to a significant extent within any state agency. In spite of the deficiency in financial support, the Cancer Hospital staff has traditionally carried out studies to "promote the welfare . . . of patients." Periodic assessment of the behavior of various cancers and the efficacy of treatment, the analysis of follow-up schedules, the reporting of unusual observations and the development and assay of new clinical approaches to old problems characterize the research from this institution.

Currently, research funds are available from many sources, but all space in the Cancer Hospital building is committed to service and no space remains for laboratories that would be complementary to the care and study of cancer patients. Recognizing a need for such space but the deficiency in state funds requisite to provide it, the Cancer Commission and the Director of the Division of Health have as private citizens chartered a nonprofit, tax exempt corporation, the Missouri Medical Research Foundation. The initial goal of this foundation is to construct a cancer research building to function in conjunction with the Cancer Hospital. The state has transferred to the foundation the right to develop the 40 acres of land about the Cancer Hospital. The executive director for the Foundation is Mr. Dale Purcell of Columbia.

Needs and Plans

The Cancer Hospital has provided more than 20 years of service to the medically indigent cancer patients of Missouri. Recent internal reorganization, remodeling and equipment moderniza-

(Continued on page 1107)

DAVID SPERLING, M.D.; JOHN S. SPRATT JR., M.D.
and **VICTOR M. CARNES, M.D.,** ***Columbia***

Adenocarcinoma of the Large Intestine With Perforation

A review is given of 18 patients with perforated adenocarcinomas of the large bowel admitted to the Ellis Fischel State Cancer Hospital.

This work was supported by USPHS Grant No. CS-9741. Dr. Sperling was formerly an assistant resident at the Ellis Fischel State Cancer Hospital and is presently senior resident in surgery at Jewish Hospital, St. Louis. Dr. Spratt is chief surgeon at the Cancer Hospital. Dr. Carnes was formerly assistant pathologist at Cancer Hospital and is presently in practice in Joplin.

A SPONTANEOUSLY perforating adenocarcinoma of the large intestine is generally regarded as having an ominous prognosis. This attitude is based almost entirely on the infrequent occurrence of this complication in the individual surgeon's experience, for detailed reports of groups of such cases in the literature are infrequent. To ascertain the validity of this pessimistic attitude, a review of all cases of perforated carcinoma of the large intestine and rectum admitted to Ellis Fischel State Cancer Hospital from 1940 through 1961 was made.

MATERIALS AND METHODS

Fourteen cancers that had perforated into the free peritoneal cavity and four rectal cancers that had perforated into the perirectal fat with abscess formation were found. Cancers invading adjacent organs without producing peritoneal soilage or abscess formation were excluded. Review of the microscopic slides of all cases included in the study confirmed the gross impression of perforation with extravasation of luminal contents into the free peritoneal cavity or perirectal fat. The 18 such cancers occurred among 1140 consecutive cancers of the large intestine and rectum treated at the Ellis Fischel State Cancer Hospital between 1940 and 1961 giving an incidence of 1.6 per cent. The follow-up after treatment was 100 per cent. The age, sex, anatomic distribution, pathologic characteristics, diagnostic and surgical procedures, operative mortality and host survival data on these 18 cases are given in tables 1 through six and serve as the basis for the following comments.

COMMENTS

No significant peculiarities of these perforating cancers are evident in the distributions according to host, age and sex or the anatomic segment of colon containing the cancer (tables 1 and 2).

TABLE 1

AGE AND SEX DISTRIBUTION OF PERFORATED CARCINOMA

40-49	*50-59*	*60-69*	*70-79*	*80-89*
4	4	2	7	1

Males 12; Females 6
Median age = 69 years

TABLE 2

ANATOMICAL SEGMENT OF THE LARGE INTESTINE—CONTAINING THE PERFORATED CARCINOMA

Location	*Number of Cases*
Ascending	1
Transverse	3
Descending	1
Sigmoid	2
Rectosigmoid	6
Rectum	5
Total	18

Some pathologic characteristics are, however, at variance with those generally encountered for colonic cancers. Higher grade carcinomas with infiltrating margins were the predominant variant (table 3). Such cancers have a tendency to penetrate all layers of the intestinal wall while the primary cancers are yet quite small,[6] and their ulcero-destructive characteristics create a logical association with the presence of perforation. A typical site of perforation is shown in figure 1.

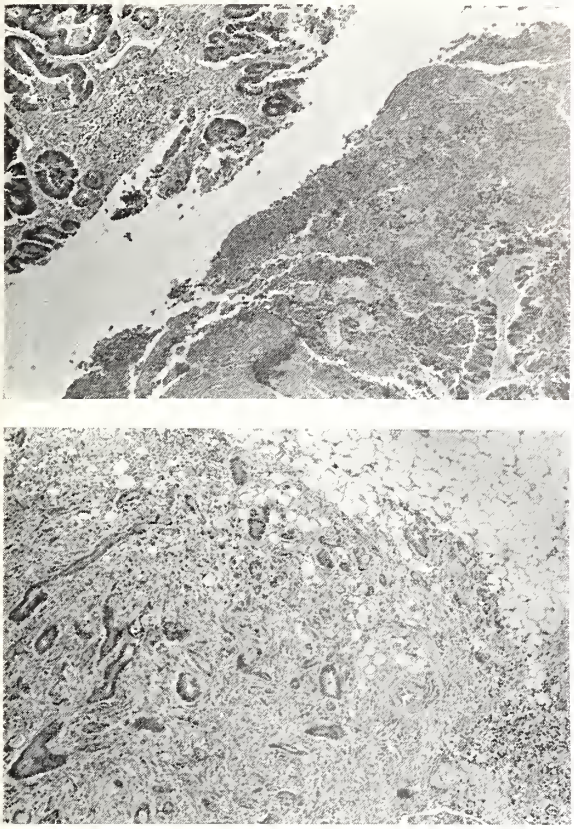


Fig. 1. A. Section through the tract in the rectal wall passing through the cancer into an abscess in the perirectal fat. B. A section through the margin of this cancer shows infiltration of cancer into perirectal adipose tissue (EFSCH Path. No. 58-607 ×25). The regional lymph nodes contained no metastatic cancer. The patient died at age 80 years of intercurrent cardiac disease and pneumonia, 24 months after abdominal-perineal resection still having no evidence of persistent or recurrent cancer.

A surprising characteristic was the tendency of these cancers to be localized with neither regional lymph node nor distant metastases being present (table 3). This favorable observation is reflected in the equally favorable host survival following resection (table 4).

All 18 patients presented with the signs and symptoms of sepsis. In the preoperative evaluation, 14 patients were examined by barium enema. The radiologist in each case filled the colon under fluoroscopic control only to the lower margin of the cancer. As a result of this conservative approach, barium was not extravasated into the free peritoneal cavity in any of these cases. Barium extravasation could not be seen on any of the roentgenograms. A few barium particles were observed microscopically in the perforations and meat and vegetable fibers were also present extraluminally. Consequently, in the presence of perforation from a colonic cancer, filling of the colon with barium contrast medium under cautious fluoroscopic control may be employed when needed to locate the diseased segment without creating a source of morbidity from barium soilage of an infected peritoneal cavity (table 5).

The surgical therapy for these carcinomas was generally as definitive as the patient's condition would tolerate (table 6). Nine perforations were treated primarily by some form of diverting colostomy proximal to the perforation. Four of these patients were never in condition for a subsequent surgical procedure and died within 30 days following the diverting procedure. Four patients had subsequent resections and two of these are alive and apparently free of cancer 36 and 130 months after the original resection. The ninth patient died of cancer five months after

TABLE 3

PATHOLOGICAL CHARACTERISTICS OF PERFORATED CARCINOMAS OF LARGE INTESTINE AND RECTUM

Tumor Grade	*Number of Tumors*
Well differentiated (Grade I)	I
Poorly differentiated (Grade II)	14
Undifferentiated (Grade III)	1
Mucinous	I
Not determinable	I
Total	18
Tumor Margin	*Number of Tumors*
Infiltrating margin	15
Circumscribed or pushing margin	I
Marginal characteristics indeterminable	2
Total	18
Gross Characteristics	
Entire circumference of the intestine involved with cancer	11 of 18 (61%)
Mean tumor length	5 cm.
Secondary external fistula formation	4 of 18 (22%)
Mesenteric Lymph Node Metastases	*Number of Cases*
Metastases present	5
Metastases absent	11
Status of lymph node metastases not determined	2
Total	18
Distant Metastases	*Number of Cases*
None discovered	15
Presence confirmed	2
Indeterminable	2
Total	18

TABLE 4

SURVIVAL OF PATIENTS WITH PERFORATED CARCINOMAS OF THE LARGE INTESTINE AND RECTUM

All Patients Regardless of Therapy

Follow-up Interval (Years)	*Patients at Risk*	*Dead*	*With-drawn Alive*	*Annual Survival*	*Accumu-lative Survival*
0-1	18	5	0	72.2	72.2
1-2	13	0	0	100.0	72.2
2-3	13	2	2	77.7	61.1
3-4	9	2	2	77.7	47.5
4-5	5	0	0	100.0	47.5

All Patients Undergoing a Primary or Staged Resection of the Perforated Cancer

Follow-up Interval (Years)	*Patients at Risk*	*Dead*	*With-drawn Alive*	*Annual Survival*	*Accumu-lative Survival*
0-1	13	0	0	100.0	100.0
1-2	13	0	0	100.0	100.0
2-3	13	2	2	84.6	84.6
3-4	9	2	2	77.7	65.7
4-5	5	0	0	100.0	65.7

the diversion and successful closure of the perforation.

In the operative notes of two of the 18 cases, the surgeon stated positively that he had performed a conservative surgical procedure because of his belief at the time that no patient having a perforation of a colonic cancer was ever cured of cancer by surgical resection. This belief was the prevalent clinical opinion before Donaldson's report of 1958,[2] although earlier reports from the Ellis Fischel State Cancer Hospital had shown the efficacy of en bloc resection of fistulas arising from colonic cancers.[7, 8] Both of these patients died of their cancer. The survival data in table 4 following the resection of perforated cancers shows the fallacy of this opinion and the importance of the definitive resection of the perforated cancer as soon as the patient's condition will permit. When a preliminary diversion is required, the diversion of the fecal stream must be complete, i.e., a proximal colostomy totally diverting the fecal stream must be performed. Otherwise, continued peritoneal soilage through the perforation may occur. The only certain method of stopping peritoneal soilage at once is to resect or exteriorize the perforated cancer.

TABLE 5

MANIPULATIONS PRIOR TO OPERATION

	Number of Patients
None	4
Barium Enema	3
Barium Enema and Proctoscopy	4
Barium Enema, Proctoscopy, and Biopsy	7

Signs and symptoms of perforation were present before the instrumentation in every case.

The survival data on our case material (table 4) show that host survival after perforation through a colonic or rectal cancer is no worse than the gross 32 per cent five year survival for all colonic cancers and the 66 per cent year survival for resectable colonic cancers reported by Gilbertsen.[3] A 76.9 per cent (40 of 52) hospital mortality occurred in Goliger and Smiddy's series when suture closure and colostomy were employed, but the hospital mortality was only 23.8 per cent (five deaths among 21 patients) when primary resection was employed.[4] Madden and Tan also showed the importance of definitive resection in the treatment of perforated colon lesions and paraphrased the old philosophy; "The patient was too ill to withstand other than the minimum emergency surgical procedure," to read "The patient was too ill to withstand other than a primary resection."[5] As previously stated, the report by Donaldson supports the point of view that the presence of perforation is no more ominous than the presence of the cancer alone, providing that definitive resective therapy is carried out as soon as possible.[2]

TABLE 6

OPERATIVE PROCEDURE, MORTALITY, AND SURVIVAL OF PATIENTS WITH PERFORATED CARCINOMA

Operation	*Number*	*Operative Deaths**	*Alive 12-31-61*
Diversion only	4	4	0
Diversion and resection (staged)	4	0	2
Resection and primary anastomosis	3	0	3
Diversion and closure perforation	1	0	0
Abdominoperineal resection	4	0	3
Hartmann's procedure	1	0	0
Modified pelvic exenteration	1	0	1
Total	18	4	9

* Death occurring within 30 days of surgical operation.

Possibly the failure of extensive peritoneal and implantation metastases to develop after the perforation of colonic and rectal cancers is attributable to the presence of infection. Both

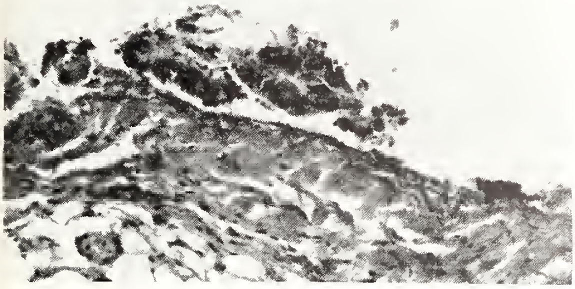


Fig. 2. This section shows the seeding of identifiable cancer on the serosal surface of the sigmoid colon resected for an acutely perforated cancer (EFSCH Path. No. 60-2103 ×100). The patient who had this cancer is still alive and free of persistent cancer on physical examination 32 months after the resection.

Vink[9] and Cohn and Atik[1] have shown in rabbits that "there is an increased danger in implanting tumor in a 'sterilized' bowel as compared to an unclean one." The presence of greater numbers of bacteria within the colons of rabbits that had received no preoperative antimicrobial drugs was associated with a significant reduction in the number of successful implants of Brown-Pearce carcinomas in lines of intestinal anastomosis compared to rabbits that had received these drugs. The cancer implant in the rabbit colon seems less likely to survive and grow in a dirty wound than in a clean one and the same generalization might conceivably apply to perforated cancers of the human colon and rectum. Certainly, as shown in figure 2, the mechanical dissemination of cancer upon the peritoneal surface occurred with the perforations in this study and the seeds for the development of metastatic implants were available.

Summary and Conclusions

Eighteen patients with perforated adenocarcinomas of the large bowel admitted to Ellis Fischel State Cancer Hospital were reviewed. Thirteen underwent resection and nine of these, or 65.7 per cent, are alive and apparently free of cancer from 26 to 130 months after resection. On the basis of an examination of the relation between survival, pathologic characteristics and therapeutic approach, tumor removal at the earliest time that the patient can tolerate resective surgery is advocated. Frequently resectability is limited by the patient's ability to survive the sepsis of the perforation, a colostomy and drainage, but this should in no way deter the surgeon from completing standard therapy whenever possible. Unwarranted pessimism regarding perforated cancers of the large intestine and rectum should not lead to compromised surgical therapy.

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CURRENT OPERATION

(Continued from page 1103)

tion have increased the quantity of service by more than 20 per cent, still utilizing the same number of patient beds. The improved facilities in the laboratory, operating room and diagnostic radiology and clinic could accommodate a 100 per cent increase in patient load over the previous norm. This doubling could be accomplished by the addition of an economical 40 bed domiciliary care and rehabilitation unit to provide quarters for patients requiring protracted hospital stays but needing minimal nursing care. This greater number of beds would also permit more expeditious service and would practically eliminate the waiting list that has so frequently delayed patient admission to the Cancer Hospital.

Beyond these service needs, the development of needed research space is under the auspices of the Missouri Medical Research Foundation. The creation of a major cancer research unit to function in conjunction with a well established cancer treatment center would have a unique opportunity for becoming a successful and productive operation.

The Cancer Hospital staff solicits the suggestions of Missouri physicians regarding any aspects of the Hospital's services.

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Leukemia

An Analysis of 209 Cases From the Ellis Fischel State Cancer Hospital

Data on 209 cases of leukemia treated at the Ellis Fischel State Cancer Hospital from 1940 to September 1963 are presented together with an analysis of the results of treatment.

Dr. Evans is Chief of Internal Medicine at the Ellis Fischel State Cancer Hosptal and Mr. Riekhof is a junior medical student at the University of Missouri School of Medicine. This work was supported in part by Grant CA 06800-01, National Cancer Institute, U. S. Public Health Service.

THE PURPOSE of this communication is to present a statistical analysis of the 209 cases of leukemia treated at the Ellis Fischel State Cancer Hospital during the period extending from the opening of the hospital in 1940 to September 1963, with 100 per cent follow-up.

MATERIALS AND METHODS

From the 32,000 clinical records on file all cases with a diagnosis of leukemia were analyzed under the following headings:[6] (1) incidence of types of leukemia according to age, sex and race, (2) survival rate, life table method, illustrated on probability graph, (3) mean survival, according to age at symptom onset, (4) status of diagnosis and treatment at referral, (5) cause of death, (6) primary treatment after referral, (7) childhood leukemia, (8) time delay from first symptom to diagnosis, (9) chronic leukemia; survival rates classified according to type of treatment, (10) length of remission according to treatment, (11) mean and range of white blood count at time of diagnosis, and (12) incidence of aleukemic cases.

Diagnoses were obtained from autopsy material in approximately 20 per cent of the cases. Other cases were diagnosed from repeated examination of peripheral blood films, bone marrow aspirations and trephine biopsies, and lymph node and other tissue biopsies.

INCIDENCE OF LEUKEMIA

Table 1 shows that 60 per cent of the cases of leukemia were classified as chronic lymphocytic. This is approximately twice the percentage reported by other authors in table 2.[2, 3, 8, 11, 17, 21] This unusual distribution is attributed to the elderly patient population at the Ellis Fischel State Cancer Hospital, with a mean patient age of approximately 65. An established observation is that chronic leukemia is more common than acute leukemia, and that of the chronic leukemias the lymphocytic variety tends to occur later in life.[1, 2, 8, 11, 26] In the present series, there was a higher proportion of males than is usually reported; 69 per cent males to 31 per cent females. This disproportion is another reflection of the Ellis Fischel patient population. Most published series reported the sexes approximately equal or with a slight male predominance.[2, 11, 17, 20, 25, 26] The ratio of white to negro patients was approximately the same as that of the general pop-

TABLE 1

INCIDENCE ACCORDING TO RACE AND SEX

Total(%)	*Type*	*WM*	*WF*	*NM*	*NF*
126(60.)	CLL	81(39.)	39(19.)	4(2.0)	2(1.0)
24(11.)	ALL	18 (9.0)	5 (2.4)		1(0.5)
41(20.)	CGL	29(14.)	11 (5.0)	1(0.5)	
9 (4.0)	AGL	2 (1.0)	5 (2.4)	1(0.5)	1(0.5)
3 (1.5)	CML	3 (1.5)			
3 (1.5)	AML	3 (1.5)			
1 (0.5)	ASC	1 (0.5)			
2 (1.0)	Unspec.	1 (0.5)	1 (0.5)		
	Total	138(66.)	61(29.)	6(3.0)	4(2.0)

Abbreviations as follows in this and following tables:
Chronic Lymphocytic Leukemia—CLL
Acute Lymphocytic Leukemia—ALL
Chronic Granulocytic Leukemia—CGL
Acute Granulocytic Leukemia—AGL
Chronic Monocytic Leukemia—CML
Acute Monocytic Leukemia—AML
Acute Stem Cell—ASC

TABLE 2

REPORTED INCIDENCE OF TYPES OF LEUKEMIA

Author and Date	*Number of Cases*	*Lymphocytic*		*Granulocytic*		*Monocytic*	
		CHRONIC	ACUTE	CHRONIC	ACUTE	CHRONIC	ACUTE
Rosenthal and Harris (1935)	455	27	7	35	30		2
Leavell (1938)	478	27		38			
Wintrobe (1942)	163	33		36			
Bethell (1943)	495	44%		48%		8%	
Gauld, Innes and Robson (1952)	647	32	22	26	11		9
Best and Limarzi (1952)	916	30.4	7.1	23.2	16.5		4.3
MacMahon and Clark (1956)	1709	28	10.9	23.2	32.9	0.6	4.4
Evans and Riekhof (1963)	209	60.1	11.5	19.6	4.3	1.8	1.8

ulation of the state and of the hospital population. In the present series, the chronic leukemias reached the peak incidence approximately 10 years later than that reported in most series. Table 3 shows the peak incidence of chronic lymphocytic leukemia at 75 years and chronic granulocytic leukemia was most frequent in the late 60's.[8, 20, 25]

Familial association of leukemia occurred once. A father aged 74 developed first symptoms of chronic lymphocytic leukemia in January 1956. His son aged 33 had the first symptoms of chronic granulocytic leukemia in August 1957.[7]

A tally of cases of leukemia according to county of Missouri residence produced per county totals of inadequate quantity to allow epidemiologic conclusions.

Survival Rate

Tables 4 through 7 show life tables of the four common types of leukemia in this series. Patients in the "withdrawn alive" column are those alive as of September 1963. These data were plotted on logarithmic probability paper No. 3128 (Codex Book Co., Norwood, Mass.).[27] This paper is used to show logarithmic time intervals on the ordinate and probability percentiles on the abscissa. Since the longevity of cancer patients tends to be distributed logarithmically, and probability of death occurs in a log normal or gaussian distribution, these data approach a straight line when plotted on logarithmic probability paper.[15, 18, 21, 22, 27, 28]

Mean Survival

At least two factors influencing the length of survivals were depicted in table 8. The shorter survivals in the younger age groups were due to the higher degree of malignancy. The shorter survivals in the last several decades is attributable to death from causes other than leukemia. The atypicality of the 90 to 99 age group in figure 5 is due to two nonagenarians who had a minimally active chronic lymphocytic leukemia which was asymptomatic and required no treatment.[9]

Status of Diagnosis and Treatment at Referral

Some patients arrived after diagnosis, and others after diagnosis and treatment as follows:

TABLE 3

AGE INCIDENCE OF LEUKEMIA

	Decade of Life									
Type	1	2	3	4	5	6	7	8	9	10
CLL				3	8	25	33	44	11	2
ALL	7	5	2	1	3	2	2	2		
CGL		1	2	7	6	4	11	9	1	
AGL			2	1	2	1		3		
CML					1	2				
AML				1			2			
ASC									1	

TABLE 4

SURVIVAL RATE: CLL

Life Table Method			*With-drawn Alive*	*Annual Survival (Per Cent)*	*Accumulative Survival (Per Cent)*
YEARS	AT RISK	DEAD			
1	126	21	2	83.3	83.3
2	103	27	2	73.7	61.4
3	74	22	2	70.2	43.1
4	50	12	3	76.0	32.7
5	35	9	2	74.2	24.3
6	24	4	1	83.3	20.2
7	19	3	0	84.2	17.0
8	16	2	3	87.5	14.9
9	11	2	0	81.8	12.2
10	9	2	0	77.7	9.4
11	7	1	3	85.7	8.1
12	3	1	0	66.6	5.4
13	2	1	0	50.0	2.7
14	1	0	1	100.0	2.7

TABLE 5

SURVIVAL RATE: ALL

Life Table Method MONTHS	AT RISK	DEAD	*With-drawn Alive*	*Monthly Survival (Per Cent)*	*Accu-mulative Survival (Per Cent)*
1	24	0	0	100.0	100.0
2	24	1	0	95.8	95.8
3	23	3	0	86.9	83.3
4	20	0	4	100.0	83.3
5	16	4	0	75.0	62.4
6	12	3	0	75.0	46.8
7	9	1	0	88.9	41.6
8	8	1	0	87.5	36.4
9	7	1	0	85.7	31.2
10	6	1	0	83.3	26.0
11	5	0	0	100.0	26.0
12	5	1	0	80.0	20.8

TABLE 6

SURVIVAL RATE: CGL

Life Table Method YEARS	AT RISK	DEAD	*With-drawn Alive*	*Annual Survival (Per Cent)*	*Accu-mulative Survival (Per Cent)*
1	41	7	3	82.9	82.9
2	31	9	0	70.9	58.8
3	22	7	1	68.2	40.1
4	14	2	4	85.7	34.4
5	8	6	0	25.0	8.6
6	2	2	0	0.0	0.0

TABLE 7

SURVIVAL RATE: AGL

Life Table Method MONTHS	AT RISK	DEAD	*With-drawn Alive*	*Monthly Survival (Per Cent)*	*Accu-mulative Survival (Per Cent)*
1	9	0	none	100.0	100.0
2	9	0		100.0	100.0
3	9	0		100.0	100.0
4	9	3		66.7	66.7
5	6	0		100.0	66.7
6	6	2		66.7	44.5
7	4	1		75.0	33.4
8	3	1		66.7	22.3
9	2	1		50.0	11.1
10	1	1		0.0	0.0

51 per cent no diagnosis and no treatment; 36 per cent after diagnosis but no treatment; 13 per cent after diagnosis and after treatment. Several patients arrived in a state of adequate diagnosis and treatment and no further treatment was immediately required. Three patients arrived markedly over-treated and required supportive therapy through a prolonged period of drug-induced marrow depression.

The 87 per cent of "virgin" cases of leukemia is an unusually high percentage. This can be attributed to at least two factors. Many patients were referred with symptoms of weight loss, anorexia, lymphadenopathy and anemia. Another group includes those patients who were diagnosed during their period of treatment and prolonged follow-up for other malignant disease. These semiannual or annual examinations, which afford early diagnosis, allow an apparently longer survival.[9, 14, 15, 18, 26]

Of the total 209 cases, 40 had an additional diagnosis of malignant disease as follows: epidermoid skin 14; basal cell skin 13; two each gallbladder, kidney, bladder, prostate; one each mel-

TABLE 8

CORRELATION OF AGE AT ONSET WITH SURVIVAL AFTER SYMPTOM ONSET AND AFTER START OF TREATMENT

Age at Symptom Onset (Years)	*Mean Survival Post-Symptoms (Months)*	*Mean Survival Post-Starting Treatment (Months)*	*Number of Cases*
0-4	4.6	1.4	5
5-9	14.0	7.0	2
10-19	6.2	2.0	6
20-29	7.8	4.1	7
30-39	27.5	13.5	13
40-49	33.5	8.7	20
50-59	45.6	23.4	34
60-69	41.3	17.6	49
70-79	32.2	17.1	58
80-89	16.2	9.5	13
90-99	54.0	0.0	2

TABLE 9

PRIMARY TREATMENT AFTER REFERRAL

Started on	*Chemo-therapy*	*Redio-therapy*	*Supportive Therapy**
CLL	48	53	25
ALL	8	7	9
CGL	14	23	4
AGL	2	4	3
CML	1	1	1
AML	1	1	1
ASC	0	0	1
Unspec.	2	0	0
	—	—	—
Total	76	89	44

* Includes antibiotics, transfusions in pre-terminal patients.

TABLE 10

SEVEN CASES OF ACUTE LYMPHOID LEUKEMIA IN CHILDREN

Age	*Sex and Race*	*Survival from Symptom Onset (Months)*	*Types of Treatment*	*Survival from Start of Treatment (Months)*
2	WM	1	methotrexate	0
2	WM	4	total body RT	1
3	WM	8	none	0
3	WM	3	none	0
4	WF	7	corticoids, 6 MP, amethopterin	6
8	WM	6	none	0
9	WF	22	corticoids, 6 MP, amethopterin	9

anocarcinoma, sarcoma, colon, stomach, vagina. The distribution of concomitant cancers of this group of leukemia patients is roughly proportional to the distribution of the types of malignant disease seen at this hospital. Coexistence of leukemia and cancer in 19 per cent of leukemia cases is markedly higher than that reported in other series.[16, 29] This is at least partly due to the selected nature of this hospital population with all patients being suspected or proven cases of cancer.

Among the 209 patients, six cases of bleeding peptic ulcer were roentgenographically diagnosed and treated at Ellis Fischel Hospital. The one gastric ulcer occurred in a case of chronic lymphocytic leukemia. Of the five duodenal ulcers, one each occurred in acute and chronic granulocytic leukemia, and three were associated with chronic lymphocytic leukemia. Peptic ulceration occurs most frequently in chronic lymphocytic leukemia and is attributed to mucosal infiltrates and thrombocytopenia.[4, 19, 23, 24]

CAUSE OF DEATH

Death due to leukemia included those conditions which were directly attributable to leukemia including fatal gastrointestinal and cerebral hemorrhage, pneumonia and bacteremia, severe anemia with myocardial insufficiency as follows: 63 per cent expired due to leukemia and its sequelae; 11 per cent expired due to other diseases, leukemia probably contributing; 14 per cent expired of undetermined causes, and 12 per cent are alive.

PRIMARY TREATMENT

Of the 209 cases of leukemia, 44, or 21 per cent, did not receive specific anti-leukemic therapy. These patients were often near a terminal state on arrival and received antibiotics, transfusions and other supportive and symptomatic measures. One hundred thirty-six patients, or 65 per cent, were treated immediately after admission, 14 patients, or 7 per cent, were treated within one month, and 15 patients, or 7 per cent, were treated after an observation period of greater than one month.[3, 21, 26]

CHILDHOOD LEUKEMIA

All cases of leukemia in children were of the acute lymphocytic type. Table 10 contains data from this group.

DELAY IN DIAGNOSIS

Since 28 cases, 13 per cent, were treated before referral, only the remaining 181 cases were reviewed for delay between first symptom and

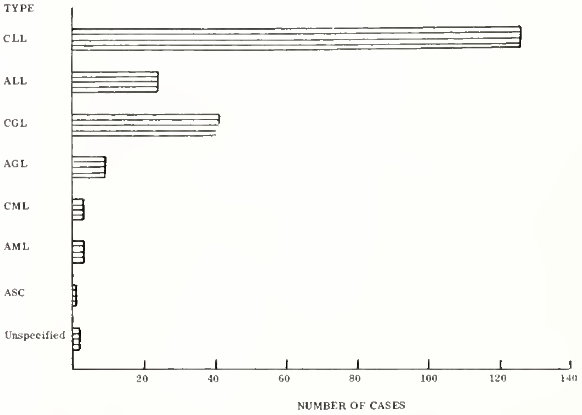

Fig. 1. Incidence of leukemias according to type.

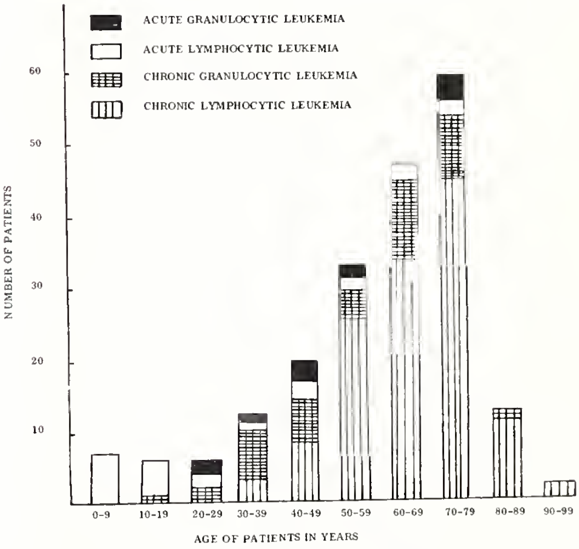

Fig. 2. Age incidence of leukemia.

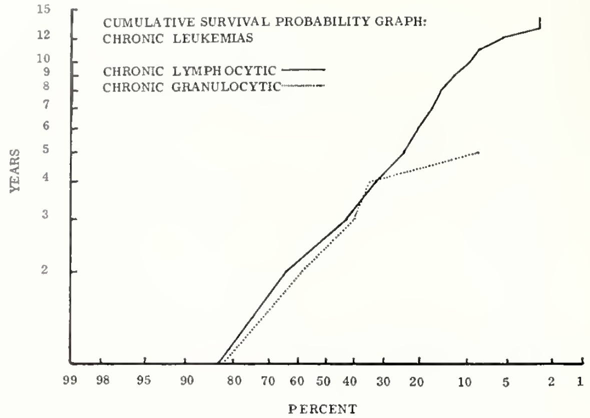

Fig. 3. Cumulative survival probability graph of chronic leukemias.

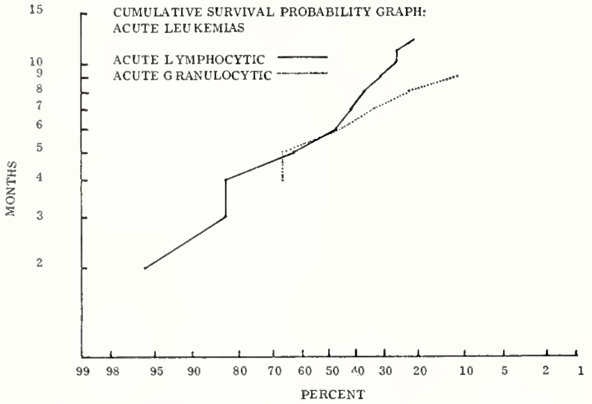

Fig. 4. Cumulative survival probability graph of acute leukemias.

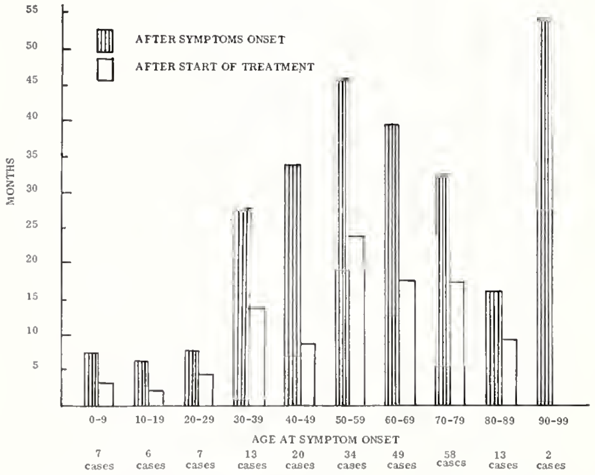

Fig. 5. Mean survival in months according to age of onset, all patients.

diagnosis. Of the 35 cases of acute leukemia, the mean delay was 4.1 months; of the 146 cases of chronic leukemia, symptoms were present for 10.2 months until diagnosis.[9]

CHRONIC LEUKEMIA SURVIVAL RATES —TREATMENT

The analysis in table 11 includes patients treated primarily with radiotherapy or with chemotherapy and not by combined methods, and includes treatment given at Ellis Fischel Hospital only. These patients were not randomized and the type of treatment selected was contingent upon the availability of chemotherapeutic agents. Chemotherapy was an undeveloped discipline for the early part of the study. The method of treatment was determined by the decision of the senior staff at the time of admission.[3, 9, 15, 20, 21, 27]

TABLE 11

CHRONIC LEUKEMIA SURVIVAL RATES ACCORDING TO TYPE OF TREATMENT

No. of Cases	*Type*	*Treatment*	*Survival from Symptom Onset (Months)*	*Survival from Treatment (Months)*
51	CLL	Radiotherapy	37.5	22.5
45	CLL	Chemotherapy	42.4	23.1
23	CGL	Radiotherapy	28.8	21.5
12	CGL	Chemotherapy	20.8	13.6

Table 12 suggests that longer survivals are obtained in chronic granulocytic leukemia with external splenic radiotherapy combined with intermittent chemotherapy. However, it must be stated that patients whose disease has a longer natural history will survive to experience a wider variety of treatment and to attain the degree of splenic enlargement great enough to require treatment.

TABLE 12

CHRONIC GRANULOCYTIC LEUKEMIA SURVIVAL RATE, ACCORDING TO TYPE OF RADIOTHERAPY

	Splenic RT Only	*Splenic RT and Other Treatment*	*No (or Insignificant) Splenic RT*
Number of Cases	23	11	7
Post Symptom Onset (months)	30.9	40.5	24.1
Post Treatment . . . (months)	27.9	28.6	10.6

LENGTH OF REMISSION ACCORDING TO TREATMENT

Clinical remission in this study is defined as that period of time following a course of treatment in which additional therapy was not required to maintain the patient in a relatively symptom-free state as compared to his pre-treatment condition. It is known from experience that many patients with leukemia, particularly chronic lymphocytic leukemia, can be in a state of clinical remission for months or years while their peripheral lymphocyte counts are elevated and while the bone marrow continues to show lymphocytic infiltration.[9, 18, 28] Indeed, it is rare in our experience to obtain a bone marrow remission in chronic lymphocytic leukemia. The radiotherapy received by most of these patients was

TABLE 13

MEAN LENGTH OF REMISSION ACCORDING TO TREATMENT

Treatment	*CLL*	*ALL*	*CGL*	*AGL*	*CML*	*AML*		*Courses of Treatment Total Number*
Fowler's Solution	11.0 (1)							1
Corticoids	3.1 (7)	.5 (4)	2.0 (1)	1.0 (1)	26.0 (1)			14
6 MP or derivatives		1.7 (2)	5.0 (1)	.5 (2)		0.0 (1)		6
Methotrexate		1.0 (6)		.5 (2)				8
Pactamycin NSC 52947	2.0 (1)		1.7 (4)					5
A-649 NSC 38270			2.5 (2)					2
Nitrogen mustard	24.9 (3)							3
TEM	12.8 (16)		0.0 (1)					17
Chlorambucil	18.5 (14)							14
Melphalan CB 3025	6.3 (4)							4
Elderfield mustard NSC 23436	10.7 (6)							6
Busulfan			4.3 (5)					5
A-20968 NSC 47774	5.7 (3)							3
P-32	8.8 (23)		7.4 (11)					34
Hexamethylmelamine NSC 13875	4.8 (4)	2.0 (1)						5
External Radiation							*Mean Air Dose*	
Spleen conventional	6.8 (10)		5.6 (17)	1.0 (2)	4.3 (1)		660 r.	30
Spleen cobalt	7.0 (1)		4.0 (2)				900 r.	3
Nodes conventional	8.4 (5)	.5 (2)	2.6 (6)				833 r.	13
Nodes cobalt	4.0 (1)						1075 r.	1
Total body conventional	9.6 (37)	.8 (5)	4.6 (10)	1.0 (1)	8.5 (1)	0.0 (1)	189 r.	55
Total body cobalt	9.3 (5)		31.0 (1)				130 r.	6
Combination conventional	12.9 (21)	1.0 (1)	7.1 (6)	1.0 (1)	2.0 (1)		1908 r.	30
Combination cobalt	2.5 (2)						1745 r.	2

of the intermittent intensive type with a four week course of daily treatment repeated after exacerbation occurred. Titrated radiotherapy in small doses spaced over long periods of time according to small changes in white blood count and other parameters was not employed. On the other hand, chemotherapy was usually administered in small daily doses extending over long periods of time with reduction in dosage to allow long-term, low-dosage maintenance. The length of clinical remission is not in all cases the maximal remission which could have been achieved with an agent. Occasionally a newer medication would be instituted without an exacerbation during the use of the previous drug.[3, 5, 10, 12, 13, 14, 15, 21, 22, 26]

White Blood Count—Mean and Range

Table 14 lists the mean initial white blood count, with the low and high counts in each series.[11, 26]

TABLE 14

MEAN INITIAL WHITE BLOOD COUNT ($\times 10^3$)

	CLL	*ALL*	*CGL*	*AGL*	*CML*	*AML*
Low	2.0	3.0	1.0	2.0	7.0	4.0
Mean	117.5	109.9	200.8	67.3	109.5	87.7
High	1100.0	448.0	960.0	135.0	212.0	208.0

Aleukemic Leukemia

Aleukemic leukemia for the purposes of this analysis is defined as an untreated case of leukemia which was referred to this hospital with an initial white blood count lower than 10,000. Table 15 shows a percentage of aleukemic cases which is similar to the figures reported by Gauld, Innes and Robson.[11, 29]

Table 16 shows a tendency for a slightly poorer survival rate in cases presenting in an aleukemic phase.

Summary

Clinical data of 209 cases of leukemia treated at the Ellis Fischel State Cancer Hospital from 1940 to September 1963 are presented.

Parameters of the natural history and manifestations of the disease with results of treatment are analyzed.

TABLE 16

MEAN SURVIVAL OF ALEUKEMIC CASES AFTER ONSET OF SYMPTOMS (MONTHS)

	CLL	*ALL*	*CGL*	*AGL*
Aleukemic	30.9	5.2	20.5	7.0
Leukemic	42.1	6.3	29.3	6.0

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TABLE 15

INCIDENCE OF ALEUKEMIC LEUKEMIA

	CLL	*ALL*	*CGL*	*AGL*
$\frac{\text{Aleukemic}}{\text{Leukemic}}$	$\frac{13}{107} = 12.1\%$	$\frac{5}{22} = 22.7\%$	$\frac{2}{33} = 6.0\%$	$\frac{2}{8} = 25.0\%$

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Host Resistance in Malignant Melanoma of the Skin

A 10 year follow-up of 135 cases of malignant melanoma of the skin is reviewed indicating that there is an essential element in the long-term control of the disease of an undefined factor of host resistance influencing growth and dissemination.

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THE COMPLEMENTARY concepts of tumor malignancy and host resistance have been developed to explain the wide range and the unpredictability of cancers. One of the many facets of this problem is the extent, if any, to which host resistance contributes to the effectiveness of therapeutic endeavors. The purpose of the paper is to seek clues to the answer among the long term survivors of a series of 135 cases of malignant melanoma of the skin. The results of the study suggest that the contribution is substantial.

CASE MATERIAL

During the 10 year period, from Jan. 1, 1939 to Jan. 1, 1951, there were seen at the Ellis Fischel State Cancer Hospital 135 patients with malignant melanomas of the skin. Of this group, 75 had had no previous definitive treatment and are classed as primary cases. One patient refused treatment and is excluded from all of the tabulations. The remaining 60 patients had had prior definitive treatment and will be referred to as secondary cases. They represent a select series of treatment failures. Three of the cases were not traced. One had non-resectable, locally advanced recurrence and two had generalized metastases. These three patients are not included in any of the tables. The primary cases have been subgrouped by clinical stage as follows:

Stage I. The clinically manifest disease is confined to the primary site and is resectable.

Stage II. The clinically manifest disease is confined to the primary site and the regional lymph nodes; at both sites the tumor is resectable.

Stage III. The primary tumor and/or the regional lymph nodes are non-resectable or there are satellite nodules in the intervening skin.

Stage IV. Clinically or radiographically manifest distant metastases are present.

The secondary cases have been subdivided as follows:

1. Local, resectable recurrence at the primary site only.
2. Resectable regional lymph node metastases only.
3. Local recurrence and regional lymph node metastases, both resectable.
4. Any of the first three groups combined with satellite nodules of sufficiently limited extent as to be readily resectable.
5. Non-resectable recurrences, either at the primary site, in the regional lymph nodes or in the intervening skin.
6. Clinically or radiographically manifest metastases present.

The subgrouping by clinical stage, together with the five and 10 year survival rates for these groups are shown in tables 1 and 2. The results are not strikingly different from those reported in the literature.

TABLE 1

FIVE AND 10 YEAR SURVIVAL RATES FOR MALIGNANT MELANOMA OF THE SKIN PRIMARY CASES ONLY

Stage	*Number of Cases*	*Survival Rate* 5 YEARS PER CENT	10 YEARS PER CENT
I	49	48	36
II	12	25	16
III	8	0	0
IV	5	0	0
	—	—	—
Total	74	36	27

TABLE 2

FIVE AND 10 YEAR SURVIVAL RATES FOR MALIGNANT MELANOMA OF THE SKIN SECONDARY CASES ONLY

Stage	*Number of Cases*	*Survival Rate* 5 YEARS PER CENT	10 YEARS PER CENT
R	8	13	13
N	16	38	13
R + N	3	0	0
S + R or N	7	15	15
LA	6	0	0
G	17	0	0
Total	57	14	7

DISTRIBUTION OF DEATH

The distribution of deaths on an annual basis are shown in tables 3 and 4 for primary and secondary cases respectively. Among the 27 primary cases who survived more than five years, there were seven deaths in the second five years of follow-up. Only two of the seven deaths are known to be due to cancer. Similarly, among the four deaths out of eight long term survivors in the secondary group, there was only one known cancer death. Thus, it would appear that the fate of the patient with malignant melanoma is usually defined before the end of the first five years of follow-up. Substantiating evidence for this interpretation is available from the history of the secondary cases. Among these 57 examples of treatment failure, there were only four in which the initial treatment had been given more than five years prior to admission to the Ellis Fischel State Cancer Hospital.

In table 3 it is evident that both the proportion of five year survivors and the length of survival in the treatment failures show a progressive decline as the stage of disease on initial admission increases. The vast majority (24 of 27) of the five year survivors are derived from the Clinical Stage I group.

TABLE 3

DISTRIBUTION OF DEATHS FOR MALIGNANT MELANOMA OF THE SKIN PRIMARY CASES ONLY

Stage	*Number of Cases*	*Year of Follow-up* 1	2	3	4	5	6	7	8	9	10	S
I	49	6	6	9	2	2	2			1	3	18
II	12	5	3	1							1	2
III	8	7	1									
IV	5	5										
Total	74	23	10	10	2	2	2			1	4	20

In table 4 the outstanding feature is the fate of those secondary cases in which the recurrent disease is limited to manifest metastases in the regional lymph nodes. Not only is the proportion of five year survivors greater than in any other group but the length of survival of the failures is also greater. Six of the 16 cases in this group survived more than five years, and even among those who died within five years there is a tendency toward a longer term of survival than in the other groups. In addition, among the four cases that died during the second five year period of follow-up, only one is directly attributable to cancer.

The unusually favorable result in this group with recurrent disease limited to the regional lymph nodes and treated by delayed therapeutic node resection should not be misconstrued to indicate that little or nothing was lost by the delay. The group is actually highly selected through the process of clinical staging. A certain number of unfavorable cases also showing regional lymph node metastases have been excluded because of associated recurrence at the primary site or in the surrounding skin or at distant sites. What the results do suggest however is that residual tumor in the regional lymph nodes is a less common source of disseminated disease than residual tumor at the primary site or in the intervening skin. In other words, the lymph nodes appear to exert a restraining influence on tumor lodged within them. It may, therefore, be important to take advantage of

TABLE 4

DISTRIBUTION OF DEATHS FOR MALIGNANT MELANOMA OF THE SKIN SECONDARY CASES ONLY

Stage	*Number of Cases*	*Year of Follow-up* 1	2	3	4	5	6	7	8	9	10	S
R	8	3	3	1								1
N	16	6	1	1	1	1	3				1	2
R + N	3		3									
S + R or N	7	5	1									1
LA	6	6										
G	17	16	1									
Total	57	36	9	2	1	1	3				1	4

this influence by immediate prophylactic node resection.

PROPHYLACTIC NODE RESECTION

In order to evaluate the role of prophylactic node resection in the clinical management of malignant melanoma it is necessary to have two groups of cases in which the clinical stage of the disease is comparable and in which the decision for or against prophylactic resection of the regional nodes is not based on any factor or factors that may have a correlation with life expectancy of the patients. Thus, if one were to reserve prophylactic node resection for those patients with large primary tumors having a relatively short duration of symptoms it is probable that the unfavorable prognosis associated with a large, rapidly growing tumor will counterbalance any beneficial effect of the prophylactic node resection, and it will be impossible to identify the benefit that was derived from the procedure. On the other hand, if one abstained from the prophylactic node resection in patients who have a poor outlook, due to some complicating disease of the heart or kidneys, a difference in rate of survival in favor of the prophylactic resection group would be expected independent of any beneficial effect of the resection itself. In actual practice, one is going to pick and choose the cases for prophylactic node resection and he will almost invariably utilize factors that are correlated with the expected chances of survival. Hence, it is impossible in most series to arrive at a sound conclusion regarding the value of prophylactic node resection.

This problem in interpretation prevails in our own case material. The results are shown in table 5. Among the primary cases, there were 49 that were eligible for prophylactic node resection. The resection was actually performed in 27 cases. The reasons for not employing it in the remaining 22 cases are manifold and include poor prognosis due to intercurrent disease, refusal of the procedure by the patient himself and a diminished expectancy of occult metastases due to the character of the primary tumor. The last named assessment was usually based on the existence of a small primary tumor with a long clinical history, suggesting that if metastases were going to take place, they would long since have reached a size sufficient to be clinically recognizable. Consequently, the two groups are in no sense of the word comparable series of cases. The final results are, therefore, difficult to interpret. If one evaluates results in terms of the rate of survival, either at the five year or 10 year point, then they speak in favor of the prophylactic node resection. If, on the other hand, one considers the deaths known to be attributable to the cancer, then there is no essential difference between these two series. In addition, the operated series shows two operative deaths. When these are added to the known cancer deaths the decision would seem to favor the more conservative approach of withholding a prophylactic node resection.

In table 5, all cases are included without regard to the site of the primary tumor. If the cases are subgrouped in accordance with the primary site, there is only one subgroup of sufficient size to merit tabulation. This is the group in which the primary lesion was located on the skin of the head and neck region and in which the regional node resection consisted of a radical neck dissection. There were 29 patients in this subgroup and 12 of them were subjected to prophylactic radical neck dissection. The results are shown in table 6. Again, if one measures the benefits in terms of survival for either five or 10 years, the choice lies with performance of a

TABLE 5

RESULTS OF PROPHYLACTIC NODE RESECTION IN MALIGNANT MELANOMA OF THE SKIN ALL SITES. PRIMARY CASES ONLY

	Prophylactic Node Resection	
	YES	NO
Total Cases	27	22
Operative Deaths	2	
Cancer Deaths	8—30%	7—31%
Survivors		
5 Years	15—56%	9—42%
10 Years	11—41%	7—32%

TABLE 6

RESULTS OF PROPHYLACTIC NODE RESECTION IN MALIGNANT MELANOMA OF THE SKIN OF HEAD AND NECK. PRIMARY CASES ONLY

	Prophylactic Node Resection	
	YES	NO
Total Cases	12	17
Operative Deaths	2	
Cancer Deaths	1—8%	5—30%
Survivors		
5 years	8—67%	6—35%
10 Years	5—42%	4—24%

prophylactic node resection. If one considers the known cancer deaths, the choice is now also in favor of prophylactic node resection since there was only one known cancer death in the 12 patients with resection whereas five are known to have died of cancer out of the 17 who had no prophylactic node resection. The mechanism of failure is important in these five cases; in one case the patient died of abdominal carcinomatosis without evidence of local recurrence of the disease, either at the primary site or in the regional nodes. In fact, it is not absolutely certain that the abdominal carcinomatosis was due to a malignant melanoma, rather than some other primary tumor. Two additional cases showed recurrence in the form of satellite skin nodules around the primary site, and therefore would have benefited little, if any, from a prophylactic node resection. This leaves just two of the five cases in which the initial manifestation of failure to control the disease was the development of node metastases. In one of these, the x-ray examination of the chest at the time that the lymph nodes were first clinically identified was suspicious for, but not conclusive of, the presence of metastases. Within one month x-rays were conclusive and the patient died four months later. It is problematical as to whether a prophylactic node resection would have contributed anything in this case. The remaining case developed metastases approximately one year following removal of the primary tumor and died of pulmonary metastases three years later. Here, seemingly, something might have been accomplished by prophylactic node resection. Thus, there are one or possibly two cases in which prophylactic resection might have contributed something. These are to be balanced, of course, against the two operative deaths, among the cases that did have the prophylactic resection. The net result in this particular series, therefore, does not speak in favor of a prophylactic node resection.

A possible beneficial effect of prophylactic node resection seems evident from the results in those cases in which clinically occult metastases were discovered in the specimens after such a resection. There were five cases in all in which such metastases were demonstrated by histologic examination. In all five instances it was the inguinal lymph node group that was involved. In four of these cases a single routine section revealed the metastatic tumor. Three of these four patients subsequently died of generalized metastases; only one of them is known to have developed satellite nodules in the intervening skin. One patient is alive and free of disease more than 10 years following the prophylactic node resection. In an additional case, also a 10 year clinical cure, the presence of an occult metastasis in an inguinal node was identified only by serial section of the entire node. It is possible that additional cases of this type are included in the series and have gone unrecognized because serial sections had not been prepared.

Satellite Skin Nodules

Closely aligned to the problem of occult metastases in the regional lymph nodes is that of occult metastases in the intervening skin, between the primary site and the regional nodes. In a previous publication this problem was studied in some detail. In a series of 65 Clinical Stage I cases capable of at least two years of follow-up it was found (table 7) that the frequency of occult metastases either in the regional nodes or in the intervening skin was approximately 30 per cent, ranging from 25 to 50 per cent, depending upon the site of the primary tumor. In one half of the cases, the initial manifest metastasis was in a regional lymph node and in one half in the intervening skin. This division is not a fundamental characteristic of the cancer for it has been influenced by prior prophylactic node resections in some of the cases. An essentially similar situation prevails in the current material, as shown in table 8. Here, with a period of follow-up of 10 years, the final frequency of occult metastases is 40 per cent. Again, approximately one half of them were first manifest in the regional lymph nodes and one half in the intervening skin. It is seen in table 8 that when the initial manifest metastasis appears in the regional nodes the prognosis is surprisingly good. There were four

TABLE 7

CORRELATION OF SITE OF PRIMARY TUMOR AND SITE OF FIRST MANIFEST LYMPHATIC METASTASIS IN MALIGNANT MELANOMA OF THE SKIN. PRIMARY CASES ONLY

Site of Primary	*Total Cases*	*Initial Lymph Spread*		
		NODE	SATELLITE	TOTAL
Head and Neck	34	5	2	7
Upper Extremity	4	2	..	2
Trunk	11	2	3	5
Lower Extremity	16	2	5	7
	—	—	—	—
Total	65	11	10	21

five year survivors among the 11 cases and the one death during the second five year period of follow-up was due to intercurrent disease. Among the seven patients in this group who died during the first five years of follow-up, only two developed nodules in the intervening skin between the primary tumor and the involved nodes. This is rather surprising in view of the fact that the tumor had reached the regional lymph nodes as well as distant sites in all of them. One wonders whether, in addition to a restraining influence being active in the regional nodes in these cases with clinically manifest node involvement, there is not also a restraining influence in the skin of even stronger degree that effectively prevents the development of manifest tumor at the site. Whether or not this second influence emanates from the involved nodes is a point to be considered later.

TABLE 8

CORRELATION OF SITE OF FIRST MANIFEST METASTASES AND TIME OF DEATH IN MALIGNANT MELANOMA OF THE SKIN PRIMARY CASES ONLY

Initial Metastasis	*No. of Cases*	*Year of Follow-up* 1	2	3	4	5	6	7	8	9	10	S
Node . . .	11	3	1	2		1					1	3
Skin	9		2	3	1	1					1	1
Distant . .	3			2	1							
None	26	3	3	2			2			1	1	14
Total . . .	49	6	6	9	2	2	2			1	3	18

Additional evidence for a restraining factor operating in the skin is found in experience with the nine cases in which the skin nodules were the first sign of failure of the initial therapeutic procedure (table 8). The two long term survivors in this group of nine patients are of considerable interest. The patient who died during the tenth year of follow-up had had a primary tumor of the foot removed by partial amputation with prophylactic inguinal node resection. Subsequently, he had multiple excisions of satellite skin nodules over a period of four years and then remained free of additional nodules for two years prior to his death from cerebral metastases. The 10 year survivor is of even greater interest; she developed massive involvement of the skin of the anterior and medial aspect of the thigh one year following excision of a primary tumor of the skin of the foot with prophylactic inguinal lymph node resection. She was considered to be incurable by us. Subsequently, at another institution, she had an excision of the involved area. The margin was, of necessity, extremely narrow at many points. Despite this, she has had no additional trouble and is alive and clinically free of disease more than 10 years following the secondary resection. It is perhaps of significance that the local skin recurrence was associated with pregnancy and the wide resection took place approximately three months postpartum. She subsequently went through another full term pregnancy and delivered without additional manifest disease.

In both of these cases, it seems likely that additional areas of skin were also invaded by migrating malignant melanoma cells and were never removed simply because they never became clinically manifest. Along this same vein, I would cite a third case that came to us with a local recurrence of the primary tumor in the ankle region, with satellite nodules at the periphery of the scar. She underwent wide excision with skin grafting and prophylactic inguinal lymph node resection. Six months later, a satellite skin nodule was excised from the medial aspect of the knee and four months after that another nodule was excised from the inner aspect of the thigh. She then remained clinically free of disease for the next 13 years, at which point she died of arteriosclerotic coronary thrombosis. In all three of these cases, the most reasonable explanation is that a restraining influence has either held the number of clinically manifest skin metastases to a minimum or subsequently restored the balance in a case that appeared to have a hopelessly extensive recurrence.

DISCUSSION

The favorable prognosis in the secondary cases in which the recurrent tumor is apparently confined to the regional nodes and the similarly favorable prognosis in primary cases with late development of lymph node metastases are interpreted as due to the presence of a restraining influence exerted by the nodes on dissemination of the tumor contained within them. Three cases have been cited in which the most reasonable explanation for the behavior of the satellite nodules in the skin between the primary tumor and the regional nodes is a restraining influence exerted on or by the skin itself. In addition, the two primary cases classified as Stage II in table 1 and constituting the two 10 year survivors in this group are of special interest. In both of these cases, the malignant melanoma appeared in the regional lymph nodes and was resected. The primary tumor was never identified throughout the subsequent 10 year period of follow-up, and both patients remained clinically free of manifest disease. In one case, the node group involved was in the inguinal region and in the other in the preauricular region. Surely here are examples of a strong growth restraining influence operating on the primary tumor itself.

Exclusive of the cases already cited, the remaining 10 year survivors are all derived either from the group (Clinical Stage I) in which the primary tumor (14 cases) or recurrence of the primary tumor (one case) was the sole manifest disease. It is possible that these cases reflect host resistance near its maximum.

The sum total of 24 10 year survivors may then be tabulated as follows:

A. Fourteen cases with primary tumor only.

B. One case with recurrent primary tumor only.

C. Two cases with occult metastases in regional lymph nodes discovered by prophylactic node resection.

D. Three cases with manifest delayed metastases controlled by therapeutic node resection.

E. Two cases with manifest delayed skin metastases controlled by excisions.

F. Two cases with occult primary tumor and manifest node metastases controlled by therapeutic node resection.

As one proceeds down the list it becomes increasingly evident that an undefined factor of host resistance is necessary to explain the behavior of the cancers. What is the nature of this factor? One possibility is that the regional lymph nodes are the site of an immunologic response which, in turn, can affect the tumor at other sites. Against this concept is the fact that in the one dramatic case with many skin metastases controlled by wide excision the regional lymph nodes had been previously resected prophylactically, thus reducing although not excluding the opportunity for antibody formation within them. Similarly, the two cases in which the primary tumor never became clinically manifest are not readily explained in terms of an immunologic response in the regional nodes, since it was the latter site that contained the sole clinically manifest disease. I have belabored this point at some length because it has a bearing on the clinical management of the disease.

If it be true that restraining influences on growth and dissemination are operating in the majority of cases, then the goal of cancer therapy is not so much the removal of all the malignant cells, but to remove those areas in which the growth restraint has obviously failed and the tumor has become clinically manifest. In addition, it is reasonable to include known areas of frequent failure such as the regional lymph nodes, provided, as noted, that they are not the prime source of the restraining influence active at other sites. I have found no evidence in this series that removal of the nodes interrupts a significant immunologic response. Perhaps the response is initiated long before the tumor is clinically evident and by the time it becomes manifest there are immunologically competent lymphocytes available from a number of sources.

With regard to occult involvement of the intervening skin, it is my belief that the extent of this involvement cannot be adequately predicted in the individual case and that one must wait for the disease to define itself more clearly, not only in terms of anatomic extent, but also in the matter of the strength of the restraining influences. Thus, the development of a few satellites calls for persistence in undertaking local excision as the nodules become clinically manifest. Even the apparently hopeless case may, on rare occasions, yield to an attempt at extirpation of the clinically manifest disease. In brief, then, we are willing to pursue a course of clinical management of malignant melanoma in which the disease is excised as it becomes clinically manifest at the primary site, the regional lymph nodes, and in the intervening skin. In addition, we would remove the regional lymph nodes, even in the absence of manifest disease because it is both a frequent site of subsequent failure and because it is a reasonably clearly defined anatomic zone, amenable to resection.

SUMMARY

A review of 135 cases of malignant melanoma of the skin, capable of 10 year follow-up, indicates that an essential element in the long term control of the disease is the operation of an undefined factor of host resistance influencing growth and dissemination. It acts upon the primary tumor, the intervening skin and the regional lymph nodes and probably upon tumor at distant sites as well. Its strength varies in different patients and at different sites. The principal role of treatment appears to be to remove those areas in which the factor has been unable to cope with the tumor, permitting it to become clinically manifest.

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Current Status of Radiation Therapy in the Management of Cancers of Selected Sites

The use of radiation or surgery or the combination in certain cases is discussed as the present accepted treatment of cancer.

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In spite of great progress made in the search for new methods in the treatment of cancer, radiation and surgery remain the only methods available for the cure of certain types of malignancies. When used alone or in combination, in properly indicated cases, it is possible to obtain good survival rates with a minimum of complications.

The role of radiation therapy in the management of cancer has undergone changes with the introduction of supervoltage irradiation (telecobalt therapy and multimillion x-ray machines). The physical characteristics of supervoltage irradiation allow the delivery of a higher dose to a deep-seated tumor without exceeding the tolerance of the skin, in comparison with conventional x-ray therapy (orthovoltage irradiation). In addition there is a clinical impression that normal tissues will tolerate higher doses with supervoltage irradiation before clinically detectable symptoms appear. Consequently it now becomes feasible to treat tumors in certain areas, such as the upper abdomen, without producing severe symptoms of radiation sickness.

Supervoltage irradiation is not a panacea. It is primarily indicated in the management of certain deep-seated tumors in the thorax and pelvis and in some moderately advanced tumors in the head and neck region, requiring high doses of irradiation that ordinarily cannot be delivered with conventional x-ray therapy machines. In the management of some tumors that are radiosensitive such as lymphomas, and in metastatic lesions, orthovoltage irradiation is still an adequate tool; in these situations the advantages of supervoltage are related to less skin reaction and somewhat greater comfort from the standpoint of the patient rather than a higher cure rate. There is also a place for the use of radium therapy in the forms of interstitial and intracavitary applications as will be described later.

The purpose of this paper is to illustrate the application of these modalities of radiation in the management of malignancies in various sites in the body.

Cancer of the Oral Cavity and Oropharnyx

Cancer of the oral cavity includes lesions of the anterior two thirds of the tongue, floor of the mouth, buccal mucosa and gums. Practically all of these tumors are squamous cell carcinomas of varying degrees of differentiation. Homolateral lymph node metastases are quite common, especially with lesions of the tongue where they can be present in as much as two thirds of the patients.

Early and moderately advanced lesions of the oral cavity can be successfully treated by either radiation or surgery with comparable end results. The type of therapy will depend to a large degree upon the facilities and personnel available in any given area; all other things being equal, it is my feeling that radiation is to be preferred as local control is equally good without requiring extensive surgery. Furthermore, in case of radiation failure there is still the possibility of performing a surgical resection of the involved area.

In spite of the trend toward the wider use of supervoltage irradiation it is the consensus of opinion that interstitial radium therapy remains the treatment of choice in the management of lesions of the oral cavity. The tongue and buccal mucosa, being muscular structures, can tolerate high doses of radiation with a minimal risk of necrosis or late complications. Lesions of the floor of the mouth can be treated in the same manner. In this area because of stretching of the mucosa over bone there is unfortunately a high incidence of superficial necrosis which sometimes results in necrosis of the mandible requiring surgical resection. Nevertheless, it is justified to attempt a curative treatment with radiation and adopt a policy of watching for necrosis and treating it as necessary. In moderately advanced cases, the size of the tumor is such that an adequate radium implant cannot be performed accurately. It is then preferable to start therapy by means of external irradiation in order to reduce the bulk of the tumor to such size that the radium implant can then be performed.

Advanced lesions of the oral cavity show a distressingly high incidence of local recurrences when treated by either radiation or surgery alone. It would appear that a planned approach of irradiation followed by radical surgical resection would offer this group of patients the best chance of obtaining long lasting control of the disease. Preoperative irradiation in these types of cases is predicated on the concept that the peripheral portion of a growing tumor is more radiosensitive than the core of the tumor; preoperative irradiation could reduce the bulk of the tumor, making it more likely to obtain an adequate margin around the residual tumor at the time of surgery. In those cases in which preoperative irradiation is planned this is usually given by means of external irradiation, preferably using some type of supervoltage irradiation. This type of radiation should stop short of a so-called radical dose in order to minimize possible postoperative complications, such as delayed wound healing and necrosis.

Cancer of the oropharynx includes the lesions of the tonsil and tonsillar pillars, base of the tongue and pharyngeal walls. These tumors are usually undifferentiated squamous cell carcinomas although well differentiated tumors may arise from the anterior tonsillar pillar. In addition lymphoepitheliomas and lymphosarcomas are seen, especially in the tonsillar fossa and base of the tongue. Carcinomas arising in the tonsillar pillars tend to metastasize to the homolateral neck nodes in the same fashion as lesions of the oral cavity, mainly if the primary tumors are advanced. Carcinomas of the tonsil and base of the tongue have an extensive lymphatic network and are prone to give rise to bilateral neck node metastases even when the primary tumors are early. Because of their location and aggressive behavior these tumors are considered to fall within the realm of radiation therapy, especially those lesions arising in the base of the tongue.

One must rely primarily on the use of external irradiation; interstitial radiation has not been too reliable because of the relative inaccessibility of the area. The doses of radiation required to sterilize these tumors are quite high and cannot be delivered well with conventional x-ray therapy. It is the general feeling that for this particular group of cases supervoltage radiation will yield better results with a lower incidence of complications. In early and moderately advanced cases the usual treatment will consist of high doses of external irradiation, which in many cases will suffice to produce complete regression of the neoplasm. If on completion of external irradiation there is residual disease then it is possible to do a localized interstitial radium implant to cover only the area of residual disease. Advanced cases, especially those with bilateral neck metastases, are curable in a low percentage of cases. Treatment in this group has to aim primarily at producing long-term palliation by the use of fairly high doses of external irradiation.

The management of metastatic neck nodes for carcinomas arising in the oral cavity is primarily surgical. In cases in which fixed, inoperable neck nodes are present the use of preoperative irradiation has been explored with encouraging results. In carcinomas arising in the oropharynx, neck nodes are usually bilateral and seldom amenable to surgical removal. The exception would be some cases of carcinoma of the tonsillar pillar or tonsil with unilateral nodes that may be suitable for a radical neck dissection. Most cases, however, should be treated by means of external irradiation complemented if necessary by the use of interstitial radium implants. Contrary to a widely held belief metastatic lymph nodes can be permanently controlled by irradiation therapy. In general, control of neck nodes requires doses substantially higher than those required to obtain permanent control of the primary lesion itself. If irradiation to the neck for metastatic nodes is properly executed it does not rule out the possibility of performing a neck dissection at a later date if there is incomplete regression of the metastatic nodes.

The results of radiation therapy for lesions in the oral cavity have shown a steady improvement. Cases of cancer of the tongue treated prior to 1940 yielded a five year survival rate of approximately 25 per cent, while now the survival rate has been reported as high as 50 per cent. The curability of lesions in other sites in the oral cavity have shown a comparable improvement as shown in table 1. This improvement in results is a reflection on better understanding of the use of various modalities of irradiation therapy and close cooperation of the radiotherapist and the surgeon. Selection of patients for treatment by either radiation or surgery, sequential use of irradiation and surgery when indicated and the use of surgery for some radiation failures or complications should yield results comparable to these.

TABLE 1

SURVIVAL RATES FOR SQUAMOUS CELL CARCINOMA OF ORAL CAVITY[1]

Site	*Number of Patients Treated*	*Per Cent Lived 5 Years*
Ant. ⅔ Tongue	146	51
Floor of Mouth	93	67
Buccal Mucosa	68	68
Lower Gum	80	56

TABLE 2

SURVIVAL RATE FOR SQUAMOUS CELL CARCINOMA OF OROPHARYNX[1]

Site	*Number of Patients Treated*	*Per Cent Lived 5 Years*
Ant. Tonsillar Pillar ...	47	40
Tonsillar Bed ...	48	42
Base of Tongue	59	31

The results of treatment of lesions in the oropharynx has shown a comparable improvement over the years, especially in regard to the more advanced lesions. This is one area where supervoltage radiation has shown its superiority over other modalities of treatment. Again, close cooperation between the radiotherapist and surgeon must be stressed since some of these cases will require additional surgery for either localized recurrent or residual disease or persistent metastatic adenopathy (table 2).

CANCER OF THE CERVIX

Recently there has been a reawakening of interest in the use of radical surgery in the management of early carcinoma of the cervix. In highly selected cases the results in the management of early lesions compares favorably with those obtained by radiation therapy. It must be pointed out, however, that these surgical technics are not applicable to all the patients presenting with some particular stage of the disease and that the rate of complications is substantially higher than those occurring following irradiation therapy, if adequate technics are used. In large numbers of cases reported by Fletcher[2] and Kottmeier[3] the incidence of significant complications following radiation therapy is low and compares favorably with the reported surgical series. It can be stated that at the present time primary irradiation remains the treatment of choice for most, if not all, carcinomas of the cervix.

Traditionally intracavitary radium therapy has been considered the mainstay in the treatment of cancer of the cervix. It has been shown that this form of therapy is successful in a high percentage of cases in obtaining permanent control of the disease when still limited to the cervix. Unfortunately a high percentage of cases of cancer of the cervix seen have already spread beyond the confines of the cervix to involve a large volume of tissue within the pelvis, associated with a high incidence of pelvic lymph node metastases. These more advanced tumors have to be considered as representing disease of the entire pelvis which requires high doses of homogeneous irradiation to the entire pelvis, an ideal that cannot be obtained by the use of intracavitary radium alone. It appears that these cases are better treated by external irradiation to the entire pelvis complemented by intracavitary radium. External irradiation preceding the radium should accomplish the following: (1) reduce the bulk of the tumor by sterilizing the more peripheral portions of the tumor which presumably are growing more actively and therefore will be more radio-sensitive; (2) allow a better radium application by reducing bulky tumors in the cervix and upper vagina; (3) possibly sterilize pelvic wall lymph node metastases.

In certain special situations, such as carcinoma of the cervical stump and in cases associated with pregnancy, the results have been rather poor. The increasing use of external irradiation to complement the use of radium has in recent years yielded survival rates comparable to those obtained in uncomplicated cases with intact uterus. In carcinoma of the cervical stump radium alone fails to give an adequate dose to the entire volume of tissue that could potentially be involved. In these cases it is essential that radium therapy be complemented by the use of external irradiation. In cancer of the cervix associated with pregnancy there is evidence of extensive spread of the disease throughout the entire pelvis even if clinically the disease is still limited to the cervix. Homogeneous irradiation to this volume of tissue cannot be obtained except by the use of external irradiation.

Experience has demonstrated the difficulty of delivering an adequate dose of external irradiation by means of orthovoltage irradiation except in fairly early cases and in thin individuals. Unfortunately this category includes a minority of the total cases seen in an institution; this is one of the areas where the use of supervoltage irradiation has definitely improved the overall results. It must be pointed out that the use of supervoltage to deliver high doses to the pelvis in advanced carcinoma of the cervix carries with it certain risks that should and can be avoided. With orthovoltage irradiation the tolerance of the skin becomes the limiting factor and therefore excessive doses of irradiation to the rectum or bladder can be avoided. With the use of supervoltage irradiation there is the risk of delivering excessive doses to these vital structures without producing significant skin reactions. This is probably the main reason why severe bladder and rectal complications were observed when supervoltage was first used; at the present time there is enough accumulated data that should help in preventing these complications.

CANCER OF THE BLADDER

Cancer of the bladder is potentially curable in a high percentage of cases and yet the results of treatment have been discouraging. The work of Jewett[4] and Marshall[5] has contributed greatly to knowledge of this disease. They have shown that early superficial tumors remain localized to the bladder for long periods of time and can be managed adequately by conservative surgical procedures and a high survival rate can be obtained. On the other hand, deeply infiltrative tumors invading the entire thickness of the bladder wall require some form of radical therapy which too often fails because of the presence of metastatic lymph nodes in the pelvis. The results of radical cystectomy for deeply infiltrative tumors have been quite discouraging, yielding a five year survival rate of less than 10 per cent.[6]

Prior to the introduction of supervoltage irradiation, bladder tumors had been treated by radiation therapy mainly for palliative purposes, but with discouraging results. During that period it was practically impossible to deliver a radical dose of radiation to the bladder without producing severe complications; this explains the discouraging results obtained. The introduction of supervoltage irradiation has brought about a renewed interest in the treatment of bladder tumors since now it is possible to deliver radical doses of irradiation to the bladder with less risk of complications. Sufficient time has elapsed to analyze the work that has been done and reach some conclusions on the value of irradiation in these types of tumors.

It is the general feeling that superficial bladder tumors still should be treated by conservative surgery, but that external irradiation may be considered in the management of the more extensive superficial tumors, which would otherwise require cystectomy for their control. The more encouraging results have been obtained in the management of the infiltrating tumors in which radiation can be considered as an alternative to radical surgery. Recent publications have shown that the three year survival rate in patients treated by supervoltage irradiation compares favorably with those obtained by radical cystectomy ranging from 20 to 30 per cent three year survivals.[7, 8]

Although these results are encouraging, one is still faced with the high number of failures in patients with potentially curable lesions. This has encouraged the investigation of the value of preoperative irradiation and radical cystectomy for the management of the infiltrating bladder cancers. The immediate results have been encouraging so far. It has been shown that preoperative irradiation is feasible without significantly increasing the postoperative complications. In addition, a significant percentage of the cases showed no residual tumor in the resected specimen and most of these patients have done well. The incidence of positive lymph nodes has been lower than expected, suggesting the possibility that irradiation has been successful in eradicating lymph node metastases. In general, patients treated by this combined approach have shown better survival rates than patients treated by either modality alone. However, a longer follow-up period is necessary before it can be determined that this represents the treatment of choice in this type of tumor.

SUMMARY

1. Radiation therapy remains the treatment of choice for certain types of cancers.
2. Understanding and proper use of various modalities of radiation is essential.
3. Continued cooperation between radiotherapists and surgeons should improve the results of the treatment of cancer.

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Diethylstilbestrol as a Chemotherapeutic Agent for Ovarian Carcinoma

The clinical effect of diethylstilbestrol in 14 patients with advanced ovarian carcinoma is described.

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MARKED IMPROVEMENT may be achieved in an occasional patient with an ovarian carcinomatosis by the administration of diethylstilbestrol. No previous reports on this subject were found in the recent literature.

MATERIALS AND METHODS

Diethylstilbestrol, a synthetic estrogenic compound with biologic properties remarkably similar to estradiol, does not contain the phenanthrene nucleus. The drug was administered orally to 14 patients with advanced metastatic ovarian carcinoma. These patients represented all of those suitable for study which were seen at the Ellis Fischel State Cancer Hospital from May 1962 through September 1963. The oral dose ranged from 15 to 30 mg. per day, with a mode of 20 mg. per day, according to the tolerance of the patient. Chlorpromazine was used to control the drug induced nausea which occurred in about one half of the patients. The total dose received by each patient ranged from 280 to 6,900 mg. Of the 14 patients, five with a more advanced stage of disease were not seen in follow-up prior to death. A longer period of survival in nine patients afforded time for reexamination of the patient and evaluation of drug effect (table 1).

RESULTS

Objective evidence of improvement, as well as subjective improvement, occurred in four of the nine patients. All of those failing to respond have expired.

Of patients who improved on the drug, two have died of recurrent intestinal obstruction. Two remain alive and are continuing on stilbestrol therapy with remissions maintained for more than one year. One of these has papillary carcinoma with generalized metastases and the other has myxomatous peritonitis following removal of large mucinous carcinomas. Both have undergone hysterectomy and bilateral salpingo-oophorectomy and are receiving stilbestrol for residual metastatic disease only.

Two of four patients with papillary carcinoma improved on therapy, one of them dramatically. Neither of the two patients with solid adenocarcinoma experienced a clinical remission. Indeed, one of these two appeared to have her disease aggravated by stilbestrol administration. Only one patient with mucinous carcinoma was studied. This cancer was a low grade tumor which was found to be implanted throughout the peritoneum with massive myxomatous ascites. Objective and subjective evidence of improvement was so great following three months of stilbestrol therapy that a panhysterectomy was performed with removal of the other diseased ovary along with multiple intra-abdominal implants. The patient now has continued on diethylstilbestrol for six postoperative months and is asymptomatic and clinically free of ascites.

In general, patients with ascites required more frequent paracenteses during stilbestrol administration. This fluid retention was relieved to some extent by the administration of diuretics.

DISCUSSION

Mühlbock[1] has demonstrated that both irradiational and chemical ovarian carcinogenesis in animals is dependent upon the presence of the pituitary gonadotropins. The production of ovarian tumors in experimental animals by splenic transplantation, by dimethylbenzanthracene administration or by ovarian irradiation can be inhibited by the presence of a normal ovary that has not been exposed to the carcinogen or by the administration of exogenous estrogen, as well as by hypophysectomy.[1, 4]

The inhibitory effect of estrogens on the secre-

TABLE 1

NINE PATIENTS ON DIETHYLSTILBESTROL

Patient Number	*Age*	*Tumor*	*Stage and Extent*	*Dose*	*Duration*	*Total Dose*	*Previous Surgery*	*Other RX and Timing*	*Signs of Improvement on Stilbestrol Therapy*	*Course*
1	31	papillary carcinoma	Stage IV. Abdominal adeno-carcinomatosis	20 mg/day	116 days	2320 mg.	exploratory laparotomy	Radiotherapy six months previously	Disappearance of ascites, slight decrease in tumor masses.	Patient expired of recurrent intestinal obstruction while on stilbestrol therapy.
2	68	papillary carcinoma, well differentiated	Stage IV. Generalized carcinomatosis. Biopsy positive supraclavicular lymph nodes.	20 mg/day	330 days	6600 mg.	bilateral oophorectomy	Elderfield mustard for 300 days ending 1 mo. before stilbestrol therapy	Decrease in size of supraclavicular lymph node. Marked increase in sense of well being. Continued regression of pulmonary metastases.	Alive. Patient continues to do well.
3	66	mucinous carcinoma, well differentiated	Stage IV. Extensive intra-abdominal metastases with myxomatous peritonitis	30 mg/day 20 mg/day	90 days 210 days	6900 mg.	oophorectomy; panhysterectomy after response to d.e.s	Thio-TEPA, 30 mg. at laparotomy 1 mo. before starting stilbestrol	Disappearance of ascites; increased sense of well-being. Loss of abdominal pain.	Alive. Doing well. Continues stilbestrol therapy.
4	38	poorly differentiated carcinoma	Stage IV. Massive intra-abdominal metastases	15 mg/day	77 days	1155 mg.	relief of intestinal obstruction, biopsy jejunostomy	None	Increased sense of well being. Disappearance of ascites. Less abdominal pain.	Expired on stilbestrol therapy.
5	51	adenocarcinoma, Grade II	Stage IV. Extensive intra-abdominal metastases. Massive ascites	20 mg/day	90 days	1800 mg.	bilateral oophorectomy	External therapy through grid (220 KV) 2 mos. before stilbestrol	No improvement. Apparent rapid progression of disease.	Expired on stilbestrol therapy.
6		papillary carcinoma	Stage IV. Massive ascites	20 mg/day	50 days	1000 mg.	biopsy only	Total abdominal and pelvic irradiation 3 mos. before stilbestrol	No improvement	Expired on stilbestrol therapy.

7	59	adenocarcinoma, Grade II	Stage IV. Massive ascites	20 mg/day	20 days	400 mg.	biopsy only	Total abdominal and pelvic irradiation 2 mos. before stilbestrol	No improvement	Expired on stilbestrol therapy.
8	54	papillary cyst-adenocarcinoma	Stage IV. Generalized metastases. Huge pelvic tumor.	20 mg/day	14 days	280 mg.	biopsy subcutaneous metastasis	None	No improvement	Expired on stilbestrol therapy.
9	66	papillary carcinoma	Stage IV. Moderate ascites. Extensive intra-abdominal metastases.	20 mg/day	90 days	1800 mg.	biopsy only	None	No definite improvement	Rectal obstruction with cecal perforation while on stilbestrol therapy. Expired following colostomy and drainage.

tion of pituitary gonadotropins has been separately demonstrated[2, 5, 6] but not in conjunction with these experiments in carcinogenesis.

The fact that oophorectomy in the experimental animal results in abnormally high levels of luteinizing hormone suggests the loss of a suppressive feedback mechanism from the ovary to the pituitary thus allowing greater gonadotropin production.

Although stilbestrol has been noted to inhibit gonadotropin production, it also appears to have a direct effect on the ovary, increasing follicle size and number in experimental animals.[4] For this reason, we are now evaluating agents with specific suppressive effects on gonadotropin production and minimal stimulation of ovarian parenchyma.[7, 8]

Summary

1. The clinical effect of diethylstilbestrol in 14 patients with advanced ovarian carcinoma is described.

2. Stilbestrol appears to induce remissions in a minority of patients with this disease.

3. Therapy appears to be more effective if the primary tumor has been removed.

4. Possible mechanisms of this effect are discussed, with suggestions for future improvement of drug design.

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MRS. MIRIAM GRAVES HOAG, ***Columbia***

The Follow-up of Patients at the Ellis Fischel State Cancer Hospital as Conducted by the Social Service Department

The history of the follow-up system and a description of the current operation is presented in that the effectiveness of the system is to a great extent responsible for the quality of the clinical research.

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The purpose of this article is to record the history and characteristics of the cancer patient follow-up system developed and employed at the Ellis Fischel State Cancer Hospital and to emphasize the role of the Social Service Department in this system.

In the fall of 1943, the accumulating numbers of cancer patients treated during the first several years of hospital operation made follow-up a real concern for the staff. In defining the duties of various departments, no definite plan was made for this service. Actually, a properly functioning tumor registry with follow-up was not required for approval of a cancer program by the American College of Surgeons until January 1, 1956, and Ellis Fischel State Cancer Hospital had developed a qualified system long before this regulation came into effect.

At that time, the Cancer Commission assigned the responsibility for developing and maintaining a follow-up system that would be workable in Missouri to the Director of the Social Service Department. Previously, some follow-up was being conducted by the medical record room, the Social Service Department and the individual senior staff members. By this action the Cancer Commission put into effect the stipulations of the Cancer Hospital enabling act:

> "Under the direction of the State Cancer Commission, a person trained in the work of following up each case of cancer and precancer shall be employed in connection with the work of local clinics to the end that protection of proper skilled care and treatment is extended each patient at all times and a uniform record of each case be kept."[4]

After this action many meetings of the hospital staff ensued for the purpose of setting up the mechanics of the system. Initially, the advice of Dr. Theodore Eberhart, the Cancer Hospital's first medical director and chief radiotherapist, was used as guidance in setting up the early follow-up schedules for old patients:

> "The importance of follow-up cannot be overemphasized as a cancer control. Once a patient has been accepted for care it is intended that he shall not be lost sight of before a minimum of five years and in most instances he should be followed for the rest of his life."[2]

In 1943, follow-up systems perfect in every detail from the point of view of clerical procedure, the filing of name cards and the sending out of notices could be found. However, many of these were relatively meaningless because the systems had not been thought through in terms of broader purposes and results. To have real significance, follow-up must be evaluated in relation to the medical and the social responsibility for the patient from the beginning of his care. The following questions were of concern to the Social Service Department: (1) is the patient met with consideration and understanding in the first interview; (2) is the patient satisfied that he is receiving the best possible medical care and attention needed from the medical staff to allay his fear and apprehension of his new environment and disease; (3) has a socially adequate plan of treatment been developed; (4) does the method of clinic and ward management allow individualization of the patient; (5) is the patient made to feel that members of the hospital personnel, who come in contact with him, are interested in his need and ready to help, and (6) does the patient with problems relating to or interfering with the medical plan get to the medical social worker and receive from her the particular type of casework services he requires? With these and similar conditions of good medical care being met, the patient will take a more active part in his own treatment, including follow-up, and the number of individuals who fail to keep follow-up clinic appointments will remain relatively small. If these conditions are not met, a follow-up system based solely on a clerical system is sure to remain incomplete.

In a highly specialized medical program for cancer therapy, every patient has some degree of medical social needs relating to his illness. In each instance, the needs should be considered on an individual approach to the patient rather than in terms of group approach to follow-up. The medical social worker, in conducting the follow-up program, should stress an individual approach to the patient early in his care.

The medical purposes of follow-up are to: (1) improve the efficiency of patient's management from the standpoint of treating recurrent, metastatic and new primary cancers; (2) attend to intercurrent diseases and problems related to the original therapy; (3) evaluate the effectiveness of treatment, and (4) assist the local physician in medical management of the patient.

By definition then, a purposeful follow-up system should coordinate the various factors and services that interact in the provision of complete medical and social casework services to the patient.

An important aspect of the follow-up system was the setting up of card files that included a master index file of all patients, a date file of patients according to clinic, and a county file of patients according to clinic. The first two files serve the obvious purposes of keeping track of scheduled appointments of individual patients and of controlling the number of patients seen in an individual clinic so as not to exceed the clinic's capacity. The third file has been of unique benefit in the economy of transportation. Transportation from the distant parts of Missouri has always presented real problems. The file is used to arrange for the transportation of groups of patients in single vehicles furnished by individuals, county agencies and, in counties with no resources, by the American Cancer Society. Also, the county health agencies are kept informed from the county file with listings of indigent cancer patients in the county.

Follow-up assumed two categories: (1) new patients, and (2) old or previously treated patients. Many patients would not get to the Cancer Hospital because of the social, economic, personal and emotional problems involved were follow-up not conducted on new patients for whom the hospital received applications. For example, an appointment is sent to a new patient when the application for admission is received and if the patient does not keep the appointment a follow-up letter is sent out immediately inquiring why the patient did not keep the appointment. Many times the reply is that the patient was unable to come because of inability to arrange care for small children, a sick husband or wife, or to obtain transportation. This brings the Social Service Department in contact with the referring physicians and the local county agencies, such as County Welfare Department, American Cancer Society representative and County Health Department. Interpreting the urgency of the patient's need for medical care as well as the patient's social problem to the local health agencies is a responsibility of the Social Service Department. In cooperative casework services with the local agencies, the patient gets to the Cancer Hospital, is evaluated and treated.

The Social Service Department conducts a social study of all patients at which time social information pertinent in follow-up is recorded. All patients are discharged through the Social Service Department permitting the medical social worker an opportunity to discuss with the patient and his family follow-up problems. At this time, the medical social worker often is able to refer the patient to the proper agency in his community for help relative to his individual problems. The medical social worker is continuously called on to interpret to agencies and lay people in the patient's community the importance of the follow-up of the cancer patient.

After each clinic the charts of patients failing to keep appointments are sent to the medical social worker assigned to particular groups of patients. The medical social data accumulated on the patient are put to use in locating and contacting patients delinquent for clinic appointments. Usually, it is found that patients have missed clinic appointments because of social problems that can be benefitted by the social worker.

In 1943, no objective data for scheduling of follow-up examinations were available to the medical staff on the timing of recurrences and metastases after primary therapy for many forms of cancer. The fact that certain metastasizing cancers could still be cured if the metastases were discovered in time was well known. As is borne out by recent studies on cancer hospital cases, the inguinal lymph node metastases de-

TABLE 1

ROUTINE FOLLOW-UP OF MALIGNANT LESIONS STILL AT RISK TO DEVELOP LOCAL RECURRENCE OR CONTROLLABLE REGIONAL SPREAD ELLIS FISCHEL STATE CANCER HOSPITAL

	Months																										*4th Yr.*		*5-10 Years*					
Organ or Lesion	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	30	36	42	48	5	6	7	8	9	10
Anus	C	C	C	C	C	C			C			C			C			C						C	C	C		C	C	C	L	C	L	C
Adrenal	C		C			C						C						C						C		C		C	C	L	L	L	L	C
Bladder	C		C			C			C			C						C						C	C	C		C	C	C	C	C	C	C
Breast	C		C			C						C						C						C		C		C	C	C	L	C	L	C
Eyelid	C		C			C						C						C						C		C								
Esophagus	C	C	C			C			C			C						C						C	C	C		C	C	C	L	C	L	C
Gall bladder			C			C						C												C		C								
Head and neck-visceral	C	C	C	C	C	C		C		C		C			C			C			C			C	C	C		C	C	C	L	C	L	C
Hodgkin's Diseasc	C		C			C			C			C						C						C	C	C		C	C	C	C	C	C	C
Intestines, Large			C			C						C						C						C		C		C	C	C	L	C	L	C
Intestines, Small			C			C						C						C						C	C	C		C	C	C	L	C	L	C
Kidney			C			C						C												C		C		C	C	L	L	L	L	L
Larynx	C	C	C	C	C	C			C			C			C			C			C			C	C	C		C	C	C	L	C	L	C
Leukemias, acute	C	C	C	C	C	C																												
Leukemias, chronic*																																		
Liver			C			C						C						C						C		C		C	C	C	L	C	L	C
Lung			C			C						C												C		C		C	C	C	L	C	L	C
Lymphosarcoma	C		C			C			C			C						C						C	C	C		C	C	C	C	C	C	C
Miscellaneous**																																		
Osseous Sarcomas			C			C						C												C		C		C	C	C	L	C	L	C
Ovaries	C		C			C			C			C						C						C	C	C		C	C	C	C	C	C	C
Pancreas	C		C			C			C			C						C						C	C	C		C	C	C	C	C	C	C
Penis	C	C	C	C	C	C			C			C			C			C			C			C	C	C		C	C	C	L	C	L	C
Prostate			C			C						C												C		C		C	C	C	L	C	L	C
Reticulum cell	C		C			C			C			C						C						C	C	C		C	C	C	L	C	L	C

Salivary glands			C			C						C						C						C		C		C	C	C	L	C	L	C
Skin Basal cell			C									C												C		C								
Epidermoid	C	C	C	C	C	C		C		C		C			C			C						C	C	C		C	C	C	C	C	C	C
Melanoma	C	C	C	C	C	C		C		C		C			C			C						C	C	C		C	C	C	C	C	C	C
Soft Tissue Sarcomas			C			C						C												C		C		C	C	C	L	C	L	C
Stomach			C			C						C												C		C		C	C	C	L	C	L	C
Testis	C		C			C						C						C						C		C		C	C	C	L	C	L	C
Thyroid			C			C			C			C						C						C		C		C	C	C	L	C	L	C
Uterus, cervix	C	C	C		C		C		C		C		C		C		C		C		C			C	C	C	C	C	C	C	C	C	C	C
Corpus	C		C			C			C			C			C			C			C			C	C	C		C	C					
Vagina, vulva	C	C	C	C	C	C			C			C			C			C						C	C	C		C	C	C	L	C	L	C

SS-33 (Revised 8-1-63)

This table indicates how frequently patients who have had definitive therapy for a primary cancer should be reexamined. When transportation is a great problem, some of these reexaminations can be performed by the referring physician. Follow-up of patients with persistent cancer is governed by the availability of additional definitive or palliative therapy.

When no further treatment is possible, the patient is seen at the hospital upon request and the Social Service Department continues to make periodic checks on the welfare of the patient and assists in arranging for home or community care. (63-6476)

veloping after abdominal perineal resection for carcinoma of the anus[1] or central pelvic recurrences developing after radiotherapy of carcinoma of the cervix uteri[3] are not hopeless situations providing that these developments are discovered in time by the medical staff. Consequently, accurate timing of the reexamination of patients is pertinent to the proper therapy of cancer. Based on the accumulated experience at this hospital the medical staff is currently studying the time schedules exhibited by recurring and metastasizing cancers. These studies are being used to devise follow-up schedules best conforming to different cancers. The most recent revision of the reexamination schedule is given in table 1. This will doubtlessly change again as the staff completes further studies. The individual clinics cycle monthly according to the schedule in table 2. The medical staff and Social Service Department use this schedule for setting appointments for periodic reexamination.

TABLE 2

MONTHLY SCHEDULE FOR FOLLOW-UP CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

Week	*Monday*	*Wednesday*	*Friday*
1	Colon, rectum, chemotherapy	Lymphomas and leukemias	Cervix
2	Male GU, chemotherapy	Skin	Breast
3	Head and Neck, chemotherapy	Upper gastro-intestinal	Cervix
4	Chemotherapy	Female GU and GYN	Head and Neck

This system, supervised by a small staff of medical social workers and stenographic assistants, has maintained a 100 per cent follow-up on from 5,500 to 9,300 out-patients per year between 1944 and 1963. This record attests to the efficacy of the system. Follow-up is not easy. It is time-consuming, requires tact, ingenuity and perseverance. The success of the follow-up program at the Ellis Fischel State Cancer Hospital is largely attributable to the understanding of human relations contributed to the system by the trained medical social worker.

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GALEN B. COOK, M.D., ***Columbia***

A Thermoplastic Balloon for Endometrial Diagnosis

A method of obtaining impressions of the human endometrium by means of a plastic-coated balloon is described.

Dr. Cook is on the staff of the Ellis Fischel State Cancer Hospital.

In Corscaden's classic monograph on *Gynecologic Cancer* he discusses endometrial carcinoma and writes, ". . . there is a correlation between depth of invasion and absence of irradiation effect, on the one hand, and between depth of invasion and cancer mortality on the other."[3] Paraphrasing this statement, one may infer a relationship between (1) early recognition, (2) depth of invasion, (3) therapeutic effectiveness, and (4) curability. Endometrial carcinoma, therefore, as many other human cancers, seems subject to the contention that early detection presages increased salvage.

It is reasonable to believe that current methods of treatment could cure many more persons suffering endometrial carcinoma if this neoplasm could be detected while confined to the endometrium. In many instances, however, such a circumstance would require detection in symptomless women.

The detection of asymptomatic endometrial cancer presents several difficult problems: Direct inspection of the cervix infrequently leads to a diagnosis of endometrial carcinoma because in the majority of the afflicted—particularly in those who are asymptomatic—the cervix shows no involvement. Bimanual palpation of the uterus cannot frequently be expected to show detectable enlargement of the organ if the tumor is truly of shallow invasion; furthermore, bimanual examination is often confounded by the obesity that so often attends the disease. Some asymptomatic endometrial cancers are detected inadvertently during the inspection of cells taken for cervical cancer screening with the Papanicolaou method. Messelt, however, reported only 64 per cent of the cases of endometrial carcinoma in his series had a positive cytologic examination.[4] Miller has sought to improve this return by the intrauterine injection of saline but the added step has not yet received sufficient trial to justify enthusiasm.[1]

The Novak curette, the Myller rasp and the Clark sound have each been designed to recover random samplings of endometrial tissue intended to be useful for the detection of occult tumors. Sponges, brushes and suction instruments have likewise been used toward this end. The reliability of each has not been great, and the inherent dangers of some have apparently inhibited their widespread acceptance.

At present, curettage is the recognized method for endometrial assessment. Applied to symptomatic women and employed by experienced, skilled surgeons, curettage has but one potential danger to cause concern. Many fear the spread of cancer during manipulation of the tumor. Roberts, *et al.*, showed a progressive rise in the cancer cell population of the blood stream beginning with cervical dilatation and increasing with curettement. The shower cleared after completion of the examination.[5] Can this technic cause metastases? The final objective evidence to support or refute the observation has not yet appeared.

I am unaware of any instance in which diagnostic curettage has been suggested for screening women who are truly asymptomatic. It seems likely few persons would accept such a proposal.

In summary: there is no highly effective test for the diagnosis of asymptomatic endometrial cancer; and, although there is an excellent means for the diagnosis of symptomatic endometrial cancer, the possibility exists that significant harm may occur.

Efforts to obtain more accurate, safe and painless examinations of hidden body cavities have led to taking surface impressions of the distal colon, the esophagus and the nasopharynx in living persons. Such topical reproductions have been recorded with special polymer combinations compounded to record accurately surface detail and recover samples of exfoliated cells. This presentation concerns early experience using this principle on the human endometrium.

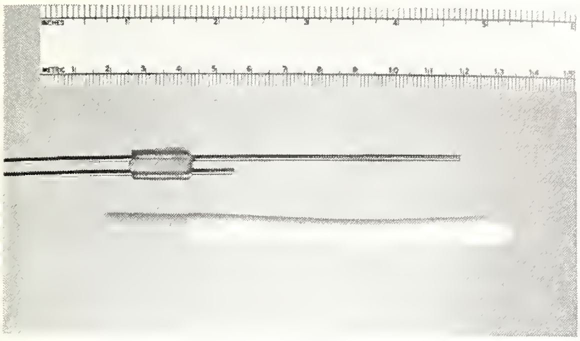


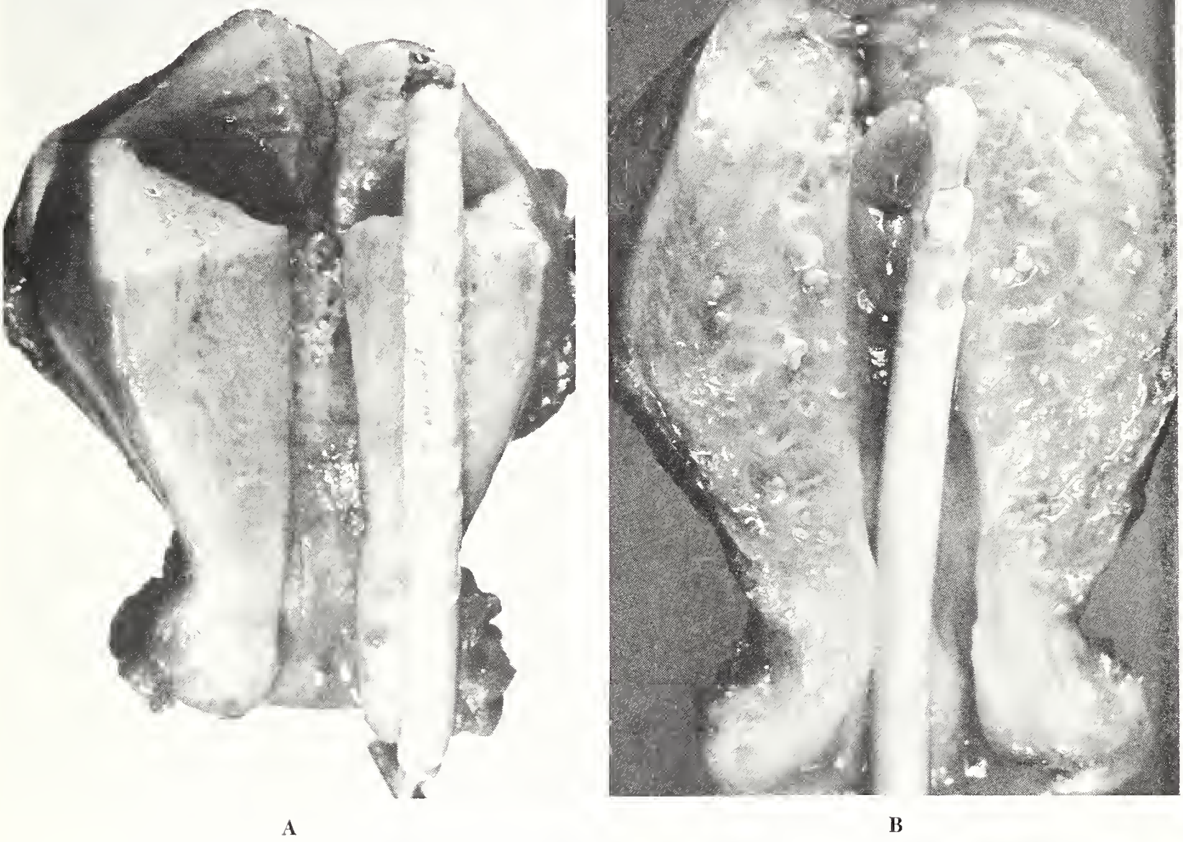
Fig. 1. The thermoplastic endometrial balloon is shown lying below the small stainless steel tubes that serve to circulate water through the balloon.

Material and Method

Latex rubber balloons, 12 cm. long and 6 mm. in diameter, were spray-coated with a thermoplastic resin-plasticizer mixture of identical composition to that previously described.[2] This combination of polyvinyl butyral and alkyl aryl phosphate adheres well to rubber but not to body tissues; it is nontoxic. It is stable at body temperature but softens sufficiently at 45 C. to record detailed topical impressions and entrap exfoliated cells.

Being pliable and having thin walls, these balloons can be introduced through the narrow cervical canal of the uterus with little effort. When collapsed and folded longitudinally the outer diameter is less than that of a small uterine sound. When inflated, the balloons are sufficiently expandable to touch the endometrium at all points. A stainless steel tube 1.5 mm. in diameter lies within the balloon giving it sufficient stability to permit introduction and to act as an inlet for water (used to control the temperature of the thermoplastic) (fig. 1). A similar tube acts as the water outlet but does not extend into that portion of the balloon lying in the uterus.

A small pump with two water reservoirs—one maintained at 45 C., the other at 4 C.—completes



A

B

Fig. 2. A. Impression of endometrial cancer recorded on a thermoplastic balloon shown lying next to the open uterus that bore the tumor. Note the tumor cells clumped on the tip of the balloon. B. Endometrial polyp and its impression on a thermoplastic balloon. This abnormality had not been suspected until the balloon was withdrawn from the uterus. The structure's presence was then confirmed when the uterus was opened.

the closed-circuit water circulation system. The water temperature within the balloon is held at 4 C. while the device is inserted into the uterine cavity; it is then increased to 45 C. to soften the thermoplastic coating and record the impression. Again the temperature is reduced to 4 C. to stabilize the impression and prevent erasure as the balloon is withdrawn through the confined boundaries of the cervical canal. An inspection of the surface of the endometrium then can be accurately inferred by examining the relief pattern seen on the balloon.

Results

Impressions have been taken from the endometrial surfaces of uteri recovered from autopsy examinations and surgical operations. The normal endometrium is smooth and symmetrical; it does not leave defects on the thermoplastic coating. Endometrial cancer (fig. 2A) gives an irregular, jagged, pock-marked surface. Samples of the surface cells are almost constantly recovered in the plastic coating. An endometrial polyp (fig. 2B) shows its surface pattern on the polymer but does not disturb the otherwise flawless topography of the remaining portions of the endometrium.

Discussion

Early experience with the test in living persons shows that the examination can be performed on most women without local or general anesthesia. There are, of course, a certain number of individuals who, years after menopause, have totally impatent cervical canals. These persons could not be examined without initial cervical dilatation. In most women, however, it should be possible to conduct the examination quickly enough that it may eventually prove useful as a screening test for endometrial and endocervical cancer.

There remain several engineering details that must be resolved before the method can be brought to the general public for appraisal. These are not disturbingly complex.

Eventually, it will be necessary to repeat the studies of Roberts, *et al.*, using this method of endometrial examination to determine if the number of cancer cells shed into the blood stream is reduced from the level seen after dilatation and curettage.

Summary

Topical impressions of the human endometrium can be taken on the surface of tiny plastic-coated balloons. At 45 C. this plastic softens sufficiently to show minute variations in the surface pattern and to recover exfoliated cells imbedded in it.

The potential usefulness of this device as a means for detecting asymptomatic endometrial cancer is discussed.

Supported in part by a Grant-in-aid from Baxter Laboratories, Inc., Morton Grove, Illinois.

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WASHINGTON

(Continued from page 1086)

there was a shortage of doctors. The Senate also voted down, 63 to 18, a proposal that would have knocked out loans to students.

The bill authorizes a three year $175 million matching grant program for the construction, replacement or rehabilitation of accredited public or nonprofit teaching facilities for the training of physicians, dentists, pharmacists, optometrists, podiatrists, nurses or professional public health personnel. A grant can not exceed 66⅔ per cent of the cost of construction for new schools or new facilities at existing schools.

The new law authorizes a loan program, patterned after the National Defense Education Act, for full time students in schools of medicine, dentistry or osteopathy.

Loans can not exceed $2,000 for a student in any academic year. Schools will be required to give preference to first year students in the school year 1963-1964. Loans will be repayable over a 10-year period which would begin three years after the student ceases to pursue a full-time course of study.

The unpaid balance of a loan will bear 3 per cent interest per annum or the going federal rate for obligations having a 15 year or more maturity, whichever is higher. Loans will be made without security or endorsement, except in the case of a minor where the note would not create a binding obligation.

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Kenneth C. Hollweg, M.D.

President's Message

Are you registered to vote?

The column "Across Missouri" in this issue gives some interesting information about voting registrations in the St. Louis area.

The November 1964 election is far in the future. The Missouri primary does not come until next August. However, many persons seem to be disinterested about voting, at least in the St. Louis area, judging from the statistics given.

At least, we can see to it that every doctor is registered between now and the next elections. Also, see to it that members of our families are registered. Many of our children may have reached, or will reach, the voting age of 21 before the next elections. If so, it is necessary that they be properly registered in order to be able to vote.

We are all well aware of these things but many times neglect so simple a matter. Make it a point to remind your friends to check their registration as well as friends of theirs.

Protect your voting rights.

Do it now!

Kenneth C. Hollweg MD

EDITORIAL

FEDERAL MONEYS FOR MEDICAL AND HEALTH RESEARCH

Federal agencies will provide about $1.3 billion in 1964 for medical and health-related research—covering outlays for research performance and investment in research facilities—according to a recent report by the Public Health Service.

Based upon data provided by federal agencies to the Public Health Service's National Institutes of Health, the publication "Federal Support for Medical and Health-Related Research, 1947-64," presents an analysis of the developments underlying the growth in federal medical research in the postwar period.

Highlights of the report show that:

Increased support for the conduct of medical research from all sources—government, industry, foundations, voluntary health agencies—characterizes the postwar period; non-federal sources in 1963 will provide almost two fifths of the national expenditure of $1.5 billion for the conduct of medical and health-related research.

Federal support for medical research has increased at about 25 per cent a year since 1947, roughly consistent with the growth since 1957 in federal support of civilian research activities exclusive of research and development oriented to defense or space objectives; currently 7 cents of the federal research and development dollar are spent for medical research.

All major federal research and development programs contain components that contribute to the advancement of knowledge leading to the conquest of disease—support for medical research is currently provided by 12 federal agencies.

In the aggregate these agencies provided $5 billion for medical research in the 1947-1963 period; about 6 per cent of the $80 billion spent by the Federal Government for all research and development in this period.

About four fifths of the total spent by federal agencies for the conduct of medical and health-related research is budgeted and justified as such; about 20 per cent represents outlays for research directly related to health but supported as germane to agency missions other than health.

Federal agencies with general health objectives as their primary mission provide three fourths of all federal funds in the current period for the conduct of medical research; agencies with defense and space objectives about one fifth, and agencies with other civilian objectives the remaining twentieth. In the early postwar period support for medical research was about equally divided between agencies with health research as their primary research mission and agencies with other objectives.

The distribution of total federal expenditures for medical research contrasts sharply with the distribution of federal funds for all other research and development; in 1963, educational institutions received about one half of federal funds for medical research as compared with one tenth of total federal expenditures for other research and development; industrial firms received about 8 per cent of medical research funds, but more than two thirds of federal funds for research and development in all other fields.

The growth of the Nation's research resources and capabilities, and the success of the research grant program in the postwar period have brought about increased participation in medical research by the Nation's scientists in universities, medical schools, hospitals, research institutes and industry. Currently, these scientists conduct about 75 per cent of all federally financed medical research while only 25 per cent of the total is performed in federal installations. In the immediate postwar period, however, almost two thirds of all federally supported medical research was performed by investigators working in federal laboratories.

Of the 12 federal agencies supporting medical research, only two, the Public Health Service and Veterans Administration, devote their entire research programs to health problems. Other major agencies such as the Atomic Energy Commission, Department of Defense, National Aeronautics and Space Administration, and the Department of Agriculture, provide support for medical research essential to their missions.

All federal agencies supporting medical research have expanded their activities in the postwar period; since 1957 the National Institutes of Health has provided approximately three fifths of all federal funds devoted to this purpose.

The report is the fourth in a series of publications designed to present timely information on significant measures of the Nation's resources devoted to medical and health-related research.

Ramblings of the Field Secretary

"The Barnstormer" was the program presented at the regular meeting of the Greene County Medical Society on Monday evening, September 30 at the Holiday Inn in Springfield. This presentation is actually a political education course built around a film, published by the American Medical Political Action Committee (AMPAC).

Approximately 164 doctors and their wives attended.

Dr. Tom Moseley of Springfield, District Director of MMPAC, served as discussion leader for this "Operation Barnstormer." "The Barnstormer" depicts basic, down-to-earth, precinct level politics. It is designed to instruct physicians and physicians' wives in the ways of successful politics.

Approximately 165 people, including members and their wives of the Greene County Medical Society, 31 doctors and their wives from the Eighth Councilor District, outside of Greene County, and special guests were in attendance on this important occasion. Mrs. Lawrence S. Crispell from Joplin, President of the Woman's Auxiliary to the Missouri State Medical Association, was present to represent the State Auxiliary. Mr. Bill Alexander, field representative for AMPAC, spoke briefly concerning the basic purpose of "The Barnstormer."

President-elect Knabb presides.

Dr. Tom Moseley served as discussion leader.

Dr. Kenneth Knabb, President-elect to the Greene County Medical Society, served as the presiding officer for the session in the absence of President Harry Silsby.

On the following night, Tuesday, October 1, "The Barnstormer" was presented at a meeting in Kansas City, sponsored by the Jackson County Medical Society, Missouri Medical Political Action Committee and the Kansas City Medical Committee for Good Government.

MISSOURI ACADEMY

(Continued from page 1090)

this occasion was to turn over the gavel to incoming president, Dr. Edson C. Carrier of Kansas City. Dr. Carrier then presented the past president pin to Dr. Gunn and expressed the sincere thanks and appreciation of the Academy membership for the excellent leadership the Academy has had during the last year under Dr. Gunn's direction.

At the annual business session on Saturday morning, October 26, the following officers were elected for the year 1964: President-elect, Doyle C. McCraw, M.D., Bolivar; Vice President, William C. Ganley, M.D., Kansas City; Board of Directors for three year terms, Barney W. Finkel, M.D., St. Louis; R. Stacy Long, M.D., Kansas City; William T. McNew, M.D., Carthage; Delegates to the AAGP, Charles O. Metz, M.D., St. Louis and C. Gordon Stauffacher, M.D., Sedalia.

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News—Personal and Professional

Speaking at the opening fall meeting of the Woman's Auxiliary of the Marion-Ralls-Shelby County Medical Society was **Henry H. Sweets Jr.**, M.D.

Selected for the rank of Knight Commander of the Court of Honor recently was **Hugh V. Ashley Jr.**, M.D., Cape Girardeau, one of 44 Thirty Second Degree Masons so selected.

At a meeting of the American Cancer Society held in New York in October, **Charles Lockhart**, M.D., Springfield, was elected national medical delegate.

Among surgeons taking part in operations televised at the meeting of the American College of Surgeons in San Francisco was **Thomas H. Burford**, M.D., St. Louis.

Featured at a meeting of the Lawyers Association of St. Louis in October were United States Armed Forces medical films which were explained by **Robert E. Funsch**, M.D., St. Louis.

At a meeting on October 25 of the board of directors of the American Cancer Society, **Wendell G. Scott**, M.D., St. Louis, was named president.

The new president of the medical staff of the Burge-Protestant Hospital, Springfield, **Francis Ellis**, M.D., was installed October 15. It was announced that **Walter W. Tillman Jr.**, M.D., would be president next year.

The Green County Women's Republican Club, Springfield, was addressed at an October meeting by **Stanley S. Peterson**, M.D., Springfield.

Speaker at a fall meeting of the Odd Fellows and Rebekahs in Kansas City, Kan., was **Lawrence L. Hyde**, M.D., Shawnee Mission, Kan.

Speaking at a meeting of the Overland Park Preschool Association, **Francis E. Bishop**, M.D., Kansas City, discussed "What About Mothers' Nerves."

Recently elected officers of the St. Louis Heart Association included **James P. Murphy**, M.D., St. Louis, president-elect.

Serving as a sectional medical officer at the 1964 Boy Scout Jamboree at Valley Forge, Pa., will be **C. R. Peck**, M.D., Kennett.

Speaking on "Guideposts to Better Health," **H. E. Petersen**, M.D., St. Joseph, addressed the Hosea Parent-Teacher meeting in St. Joseph recently.

Addressing the October meeting of the Central Missouri Medical Assistants' Society, **Josephine Baker**, M.D., Moberly, discussed "Anesthetic Management."

Among surgeons who were inducted as Fellows of the American College of Surgeons on November 1 were Drs. **Frank R. Dexheimer**, Columbia; **Walter T. Judge Jr.**, Crystal City; **Harry S. Jonas**, Independence; **Frank E. Baum**, Kansas City; **Richard V. Bradley**, **William S. Coxe**, **W. Edward Lansche** and **Antonio R. Suba**, St. Louis; **James W. Clawson**, Springfield.

ACROSS MISSOURI

(Continued from page 1088)

be permitted by law to vote for presidential and vice presidential electors at such election but for no other officers. No idiot, no person who has a guardian of his or her estate or person and no person while kept in any poorhouse at public expense or while confined in any public prison shall be entitled to vote, and persons convicted of felony, or crime connected with the exercise of the right of suffrage may be excluded by law from voting.

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County Society News

FIRST DISTRICT

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Buchanan County Medical Society

Fifty physicians attended the October 2 dinner and meeting of the Buchanan County Medical Society in the Empire Room of Hotel Robidoux in St. Joseph.

Dr. F. Gregg Thompson III presented the scientific program. Speakers were Dr. Herbert C. Senne, who discussed "Hypotensive Drugs," and Dr. Allen I. Herman, who discussed "Antibacterial Drugs."

The two physicians classified the numerous drugs in each of the categories discussed by them in an attempt to aid physicians to keep the various drugs in their proper physiologic use and to prevent overlapping of therapy.

The program is the first of what is planned to be a series of drug classification.

Dr. John R. McDaniel, president, presided at the session.

William Redmond, M.D., *Secretary*

Meeting of October 6

The eighth annual joint meeting of the Buchanan County Medical Society and the St. Joseph Bar Association was held in the Empire Room of Hotel Robidoux the evening of October 30. One hundred and five physicians and attorneys attended. Presiding jointly at the event were the organization presidents, Dr. John R. McDaniel and Mr. Elmer E. Reital. Dr. H. E. Petersen introduced the speaker, Dr. Charles B. Wheeler Jr., Kansas City, Missouri.

Dr. Wheeler, who is both a medical doctor and an attorney, presented a movie and discussed, "The Proposed Medical Examiner's Law."

Arrangements for the dinner and meeting were made by the program chairmen for the two groups, Dr. F. Grett Thompson III, and Mr. J. W. Roberts.

The medical profession is cordially invited to the January 8 program of the Buchanan County Medical Society. Speaker is Dr. Leslie Rudolf of the University of Virginia who will discuss, "Organ Transplants." The program follows 6:30 dinner in the Empire Room of Hotel Robidoux. Sponsoring Dr. Rudolph's appearance in St. Joseph is the Phillips Roxane Company.

William Redmond, M.D., *Secretary*

Grand River Medical Society

On October 10, 39 members, wives and guests assembled at the Strand Hotel at Chillicothe, for the October meeting of the Grand River Medical Society.

After dinner Dr. M. L. Gentry of the Division of Health spoke briefly on "The Current Immunization Law and Its Application." He stressed that the Division of Health's policy is that all immunizations should be done in the doctor's office as opposed to school clinics.

The guest speaker, James MacKenzie, M.D., Department of Surgery of the University of Missouri Medical School, gave an interesting and well received discussion of cardiac surgery in infancy.

The following business meeting was brief but resulted in the unanimous acceptance of three new members. They were: Drs. Charles W. Pemberton, M.D., now in Washington, D. C.; Albert D. Cross, M.D., now of Trenton, Mo.; and Paul C. Todd, M.D., of Carrollton.

Jack L. Vinyard, M.D., *Secretary*

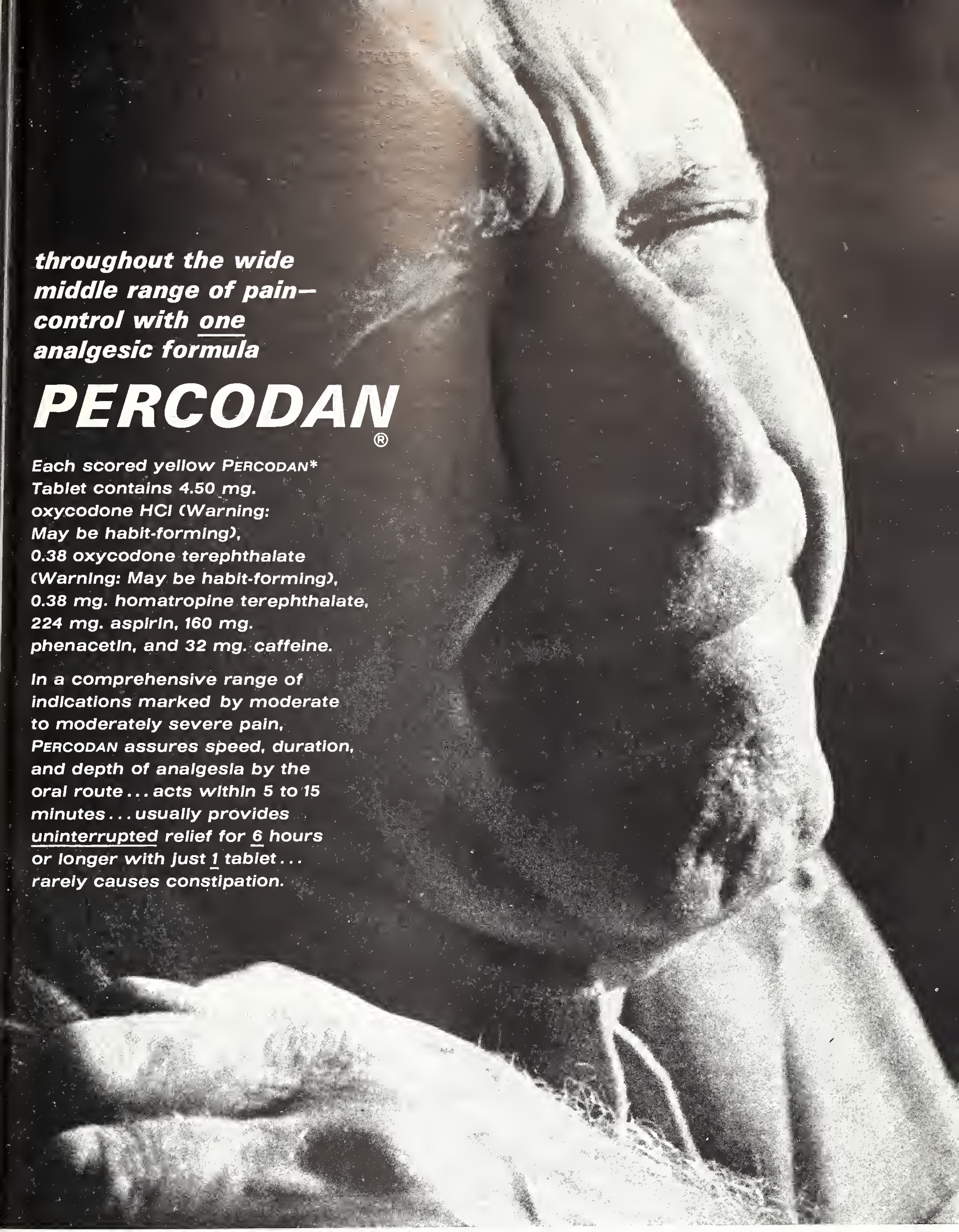
SECOND DISTRICT

HARRY L. GREENE, HANNIBAL, COUNCILOR

Chariton-Macon-Monroe-Randolph County Medical Society

On Thursday evening, October 10, the members and their wives of the Chariton-Macon-Monroe-Randolph County Medical Society welcomed their guests to the 16th Annual Public Relations dinner meeting of the Society. The gala occasion took place at the Moberly Country Club and was presided over by Dr. Josephine D. Baker of Moberly, President of the Society.

Approximately 150 people were present to enjoy the occasion and to hear an excellent address given by H. H. London, Ph.D., Professor of Industrial Education at the University of Missouri in Columbia. His topic was "Vocational Education." Dr. London in his address, made the following observation: "If Missouri is to retain its people and remain a prosperous state, it must have a much broader and more effective program of vocational education to train workers for business, industry and the service occupations." He pointed out that Missouri needs to



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Average Adult Dose—1 tablet every 6 hours. **Precautions, Side Effects and Contraindications**—The habit-forming potentialities of Percodan are somewhat less than those of morphine and somewhat greater than those of codeine. The usual precautions should be observed as with other opiate analgesics. Although generally well tolerated, Percodan may cause nausea, emesis, or constipation in some patients. Percodan should be used with caution in patients with known idiosyncrasies to aspirin or phenacetin, and in those with blood dyscrasias. **Also available:** Percodan®-Demi, containing the complete Percodan formula but with only half the amount of salts of oxycodone and homatropine. Both products are on oral Rx in all states where laws permit. Narcotic order required. **Literature on request.** ENDO LABORATORIES **Richmond Hill 18, New York**

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establish over the state, a series of area vocational-technical schools so as to prepare both young people and adults of different levels of ability for present and future jobs.

As one of her introductions, Dr. Baker presented Dr. Thomas S. Fleming of Moberly who will be the 1964 President of the Society.

J. Will Fleming Jr., M.D., *Secretary*

FOURTH DISTRICT

PAUL R. WHITENER, ST. LOUIS, COUNCILOR

Lincoln-St. Charles County Medical Society

A dinner meeting of the Lincoln-St. Charles County Medical Society at the Golf View Inn at the St. Charles Golf Course was held on Tuesday evening, October 29.

Following an enjoyable social hour, the program for the evening was presented by Mr. J. B. Campbell, representative of St. Louis Sales Division of Blue Cross and Blue Shield. Mr. Campbell discussed a number of problems concerning physician relationship to Blue Cross and Blue Shield. A general discussion period followed his talk.

Robert J. Fleming, M.D., *Secretary*

SIXTH DISTRICT

O. B. BARGER, HARRISONVILLE, COUNCILOR

Henry, Johnson, Pettis, Saline, Lafayette-Ray County Medical Societies

On Wednesday evening, October 16, more than 50 people, including doctors and their wives, attended a joint dinner meeting of the Henry, Johnson, Pettis, Saline and Lafayette-Ray County Medical Societies at the Country Club in Clinton.

Dr. King, president, Henry County Society, presided.

The evening festivities began with a social hour followed by a smorgasbord dinner and the program.

President Hollweg was the speaker.

Kenneth C. Hollweg, M.D., of Kansas City, President of the Missouri State Medical Association, gave the principal address, presenting an interesting discussion on medical society organization, functions and membership responsibilities and values. His message was received with interest and enthusiasm.

The Henry County Medical Society served as host on this occasion with the wives of the members of that Society arranging decorations, registration and a special program for all the doctors' wives in attendance.

Richard H. King, M.D., *President*
Henry County Medical Society

Lafayette-Ray County Medical Society

The regular meeting of the Lafayette-Ray County Medical Society for doctors and wives was held on October 8, at Maib's Cafe, Lexington.

Dinner was served, following which the program was turned over to G. C. Bates, M.D., Kansas City, Missouri. Dr. Bates gave an interesting discussion of the care and follow-up prophylactic care of rheumatic heart disease. He also discussed a recent study by the Missouri Heart Association which gave some idea of the incidence of rheumatic heart disease in this state as well as the marked decrease in the rate of recurrence

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SHAKE WELL BEFORE USING
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if prophylactic follow-up treatment was carried out properly.

Mr. Sam Reves, Executive Secretary of the Western Central Heart Association of Missouri, was present and discussed the set-up of the West Central Missouri Heart Association and how it was presently functioning to aid in the care of rheumatic heart disease victims.

Wayne Boydston, M.D., *Secretary*

West Central Missouri Medical Society

The West Central Missouri Medical Society met in regular monthly session October 10 at the Spring Steak Dinner House in Eldorado Springs. The meeting opened with the usual social hour followed by a nice steak dinner.

Following the dinner the secretary, in the absence of both President Jones and Vice President Ecklund, opened the meeting with the reading of the minutes of the September meeting.

Sylvester Doggett, Sikeston, who has always kept his membership with this Society, but who is now in a veterans hospital in Cario, Ill., and over 75 years of age was voted an honorary member by the Society, and the state office has been so notified.

The application of membership to the Society of Dr. Worsley K. Stewart who has become associated in general practice with Dr. Robert Magee of Eldorado Springs was passed favorably by the credentials committee and he was voted a member of our society.

L. H. Hartley, M.D., Springfield, recently associated with the Ferrell-Duncan Clinic of that city, who recently completed his medical residency in internal medicine at the M. U. Medical Center, spoke on the "Modern Treatment of Chronic and Acute Leukemia." He presented a good talk on the subject.

We were pleased that Doyle McCraw, M.D., Councilor of the 8th district could accompany Dr. Hartley to this meeting. Dr. Hartley is the son-in-law of Dr. McCraw.

No further business the meeting was adjourned until the November meeting in Nevada at which time Kenneth Hollweg, M.D., State President, will be guest speaker. The December meeting will be in Butler at which time election of officers will be held. Dr. Jones has appointed Drs. Roy Pearse, Robert Magee, and Don Geisler as the nominating committee and these men are to come forward with a recommended slate of officers at the December meeting.

Carter W. Luter, M.D., *Secretary*

EIGHTH DISTRICT

DOYLE C. McCRAW, M.D., BOLIVAR, COUNCILOR

Greene County Medical Society

On Thursday, September 12, the Greene County Medical Society held its 16th Annual Handicap Golf Tournament at Hickory Hills Country Club in Springfield.

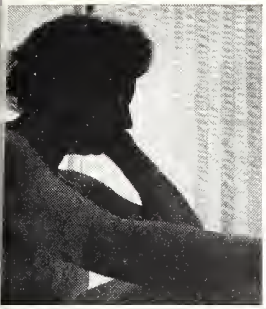
Dr. Bonebrake (left) receives trophy from Dr. Fred Coller. Dr. Lurie watches atop table.

Dr. M. D. Bonebrake, with a net score of 66, took top honors in this year's tournament. With the Championship, Dr. Bonebrake obtained temporary possession of the new Championship Traveling Trophy and also an electric eye polaroid camera presented by Crank Drug Company.

Tom O'Brien demonstrates proper form to Dr. McCraw, Dr. Ferrell and Ray McIntyre.

Low gross honors went to Dr. E. L. Clayton with a gross 74.

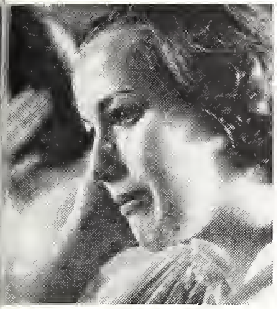
(Continued on page 1150)


The insomniac

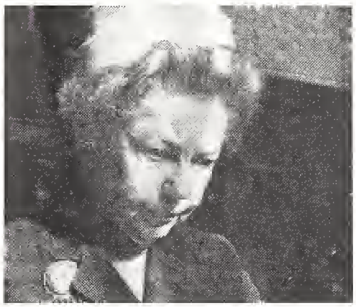
The tense, nervous patient

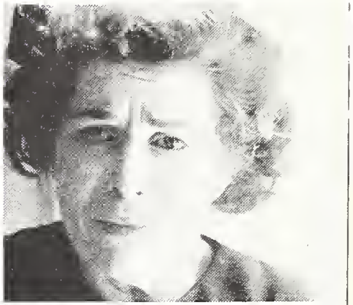
The heart-disease patient

The surgical patient


girl with dermatosis

Tension headache


The woman in menopause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The agitated senile patient

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Mr. Beau Misemer, Misemer Pharmaceuticals, won top honors in the Guest Flight with a net score of 73. In addition to the Guest Flight Trophy, Mr. Misemer won a golf shirt, both presented by the medical Society.

Mr. Jim Cadle, Bauer and Black, won a sport shirt and socks presented by the medical Society, with a low gross score of 91.

Dr. Harold Lurie, Chairman of the Social Committee, presided at the Champion's Banquet which followed the tournament. Prizes were awarded at the banquet, a stag buffet which was held in the Men's Lounge at the club.

Special guests for the tournament were Mr. Tom O'Brien, Executive Secretary, Missouri State Medical Association; Mr. Ray McIntyre, Field Secretary, Missouri State Medical Association, and Dr. Doyle McCraw, Bolivar, 8th District Councilor, Missouri State Medical Association.

Dr. Lurie, after expressing appreciation to those who donated prizes for the tournament and to Mr. Beau Misemer, Mr. Ed Hawes, Mr. Bill Hawkins, Mr. Forrest Windham, Mr. Charles Chick and Mr. Leland Bussell for sponsorship of the 19th Hole, presented two special awards to Mr. Tom O'Brien, as the "Best Executive Secretary of the Missouri State Medical Association in the Tournament" and Mr. Ray McIntyre, as the "Best Field Secretary of the Missouri State Medical Association in the Tournament."

Guy D. Callaway Jr., M.D., *Secretary*

NINTH DISTRICT

E. A. STRICKER, ST. JAMES, COUNCILOR

Mid-Missouri County Medical Society

The Mid-Missouri County Medical Society and the doctors' wives met at the ranch home of Dr. and Mrs. B. J. Bass of Salem on Thursday night, October 24. The evening festivities began with a social hour followed by a tasty buffet dinner prepared and served just right by Mrs. Bass.

The featured speaker for the evening, who is one of considerable distinction, was Professor W. A. Albrecht, Emeritus Professor of Soils at the University of Missouri. He gave his famous talk on "The Human and Climatic Soil Pattern." This was a real down-to-earth discussion.

The Society is most appreciative of the fine hospitality extended by the Society president and his wife.

M. K. Underwood, M.D., *Secretary*

TENTH DISTRICT

W. D. ENGLISH, CARDWELL, COUNCILOR

Butler-Ripley-Wayne County Medical Society

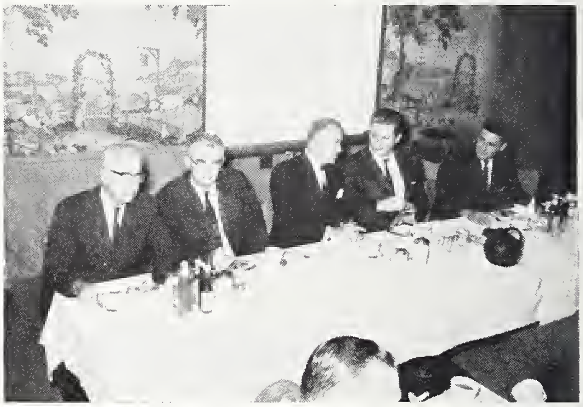
A dinner meeting of the Tri-County Medical Society was held on October 16 at 6:30 p.m., at the Holiday Inn, Poplar Bluff.

The program was presented by Mr. Orus Wilson, Jefferson City, Education Chairman of the State Cancer Society.

John L. Wright, M.D., *President*

Cape Girardeau County Medical Society

On Monday evening, October 7, the Cape Girardeau County Medical Society was privileged to have as its guest speaker Dr. Kenneth C. Hollweg, Kansas City, President of the Missouri State Medical Association. This was the regular monthly meeting of the Society and an excellent turnout of more than 40 physicians was present to meet Dr. Hollweg and hear his remarks. The evening affair began with a social hour, then dinner, followed by the address of President Hollweg. His remarks pertained to medical society organization, programs of the Society on the county, state and national levels. He emphasized the responsibility of physicians to support their medical organizations, to know what's going on and to properly guide the activities. His presentation was well organized, effectively presented and well received.

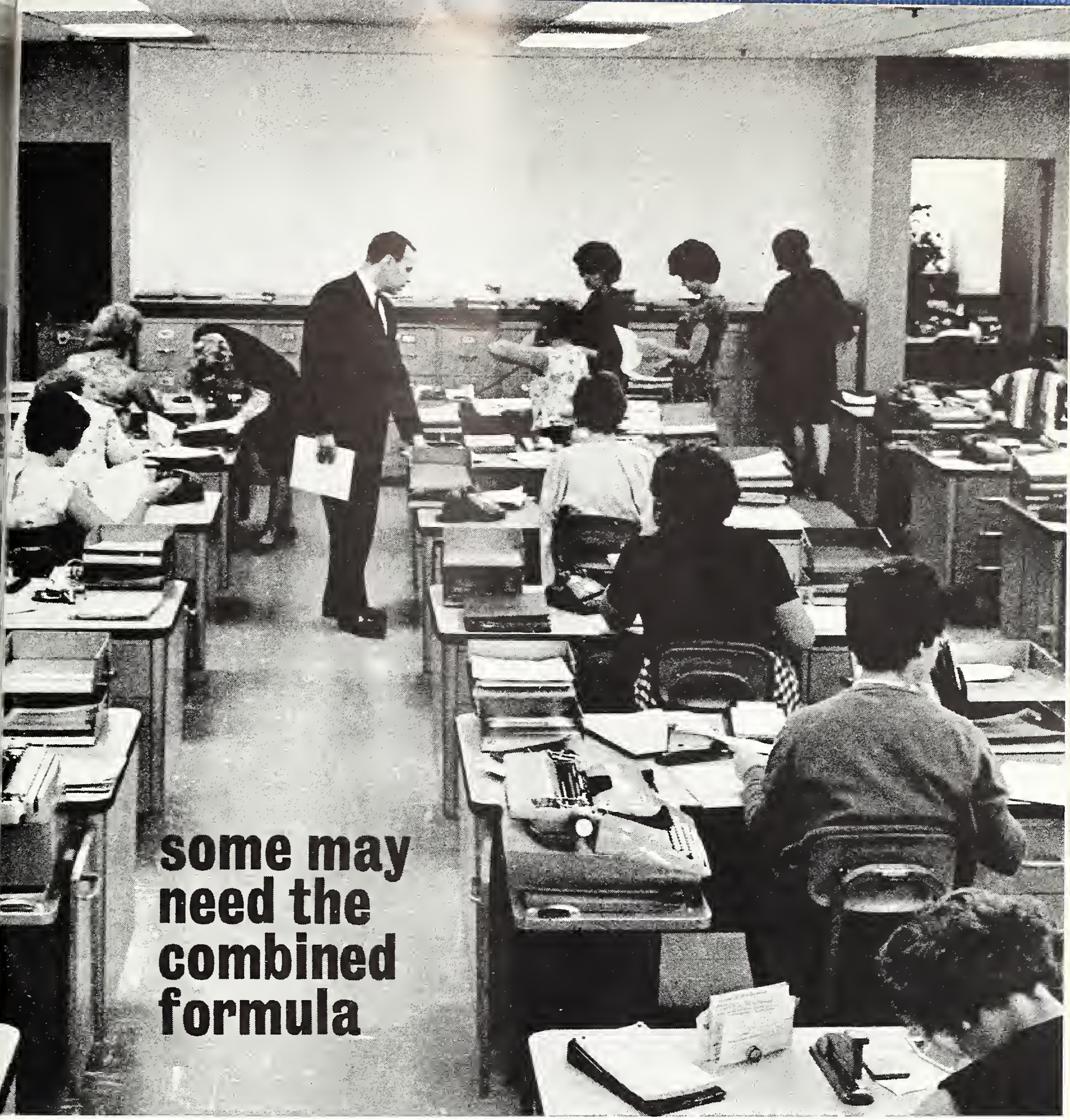


Seated, left to right, are Dr. Ritter, program chairman; Dr. English, Councilor; Dr. Hollweg, President; President Seabaugh and Secretary Magaletta.

Two additional guests on this occasion were Dr. W. D. English of Cardwell, Councilor of the Tenth District, and Raymond McIntyre, Field Secretary of the State Medical Association.

Dr. William O. L. Seabaugh of Cape Girardeau, president of the Society, presided at the evening session.

George E. Magaletta, M.D., *Secretary*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Caffeine	30 mg.
Salicylamide	150 mg.
Chlorothen Citrate	25 mg.

Effective in controlling tetracycline-sensitive bacterial infection and providing symptomatic relief in allergic diseases of the upper respiratory tract. Possible side effects are drowsiness, slight gastric distress, overgrowth of nonsusceptible organisms, tooth discoloration. The last named may occur only if the drug is given during tooth formation (late pregnancy, the neonatal period, early childhood). Average Adult Dosage: 2 Tablets four times daily.

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DUNKLIN COUNTY MEDICAL SOCIETY

A dinner meeting of the Dunklin County Medical Society was held Thursday night, October 10, at the Cotton Boll Hotel, Kennett. A social hour, compliments of the local medical society, preceded dinner.

The program for the evening was sponsored by the Missouri Heart Association, the Missouri Academy of General Practice, and the Missouri State Medical Association and presented Charles Roper, M.D., St. Louis, Assistant Professor of Thoracic Surgery at Washington University Medical School, who spoke on "The Surgical Treatment of Rheumatic Heart Disease." In addition to this interesting discussion, Dr. Roper presented a summary of the results of a recent rheumatic survey in Missouri, conducted through the cooperation of the physicians and hospitals over the state.

E. L. Spence, M.D., *Secretary*

MINERAL AREA MEDICAL SOCIETY

The October 24 meeting opened with a program, sponsored by the J. D. Searle Company, featuring Jay J. Gold, M.D., Professor of Internal Medicine at the Chicago Medical School and Director of the Department for Research in Human Reproduction of Michael Reese Hospital, who discussed the "Use of Progestational Steroids in Menstrual Irregularities." Following his illustrated lecture there was a dicussion period involving the general use of these new drugs.

At the regular business meeting old business was discussed following the reading of the minutes. The program for increased tetanus immunization programs in the area was reviewed and amplified in terms of contacting the major employers and unions in this area with suggestion that they arrange with the doctors in their community for a more complete program of tetanus immunization.

Operation Hometown, a project to focus opposition to the King-Anderson Bill, was then discussed. The chairman of the medical society committee on this operation, Dr. Crouch, appointed the following subcommittee chairmen: Speakers, Dr. Jack Mullen; Enlisting Allies, Dr. George Oliver; Newspapers, Radio and TV, Dr. C. W. Chastain; Letter Writing, Dr. Marvin Haw; Material Distribution, Dr. C. H. Appleberry; and Congressional Contacts, Dr. G. L. Watkins. It was felt that it would be wise to have a meeting devoted solely to this program in the near future.

Application for transfer from Dr. T. R. Burcham to transfer his membership from the Ripley-Butler-Wayne Medical Society to the Mineral Area Medical Society was discussed and ap-

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The need for critical dosage adjustment to avoid toxic manifestations, is minimized when the sulfonamide chosen is SULFABID (brand of sulfaphenazole).

With SULFABID (sulfaphenazole), effective blood and plasma levels are achieved with a convenient twelve-hour dosage schedule, yet its urinary solubility and rate of excretion combine to provide a high degree of safety with minimal risk of excessive drug accumulation. In order to demonstrate this high degree of safety, Essellier and co-workers (1), personally took 25 grams daily for five days . . . over *six times* the recommended therapeutic maintenance dosage level without experiencing intolerance.

SULFABID (sulfaphenazole) has been critically evaluated in the treatment of thousands of patients throughout the western world, more than one-third of whom were infants and children. The results have established that SULFABID (sulfaphenazole) is well tolerated, and that in appropriate dosage it produces satisfactory therapeutic effects.

SULFABID (sulfaphenazole) is indicated in a wide variety of infections caused by sulfonamide—susceptible bacteria, ... Abscesses, Bronchitis, Cellulitis, Cystitis, Furunculosis, Otitis media, Pharyngitis, Prostatitis, Pyelonephritis, Sinusitis, Tonsillitis, Urethritis and wound infections.

An informative brochure . . . with clinical findings and bibliography is available from your Physicians Products Medical Service Representative or by mail request.

THESE CASE STATISTICS BASED UPON 33 PUBLISHED REPORTS OF THERAPEUTIC RESPONSE TO SULFABID * (Sulfaphenazole)

Indications	No. of Patients	Response* Recovered	None
Biliary tract infections	24	18	6
Bronchitis	233	190	21
Pharyngitis, laryngitis	185	155	16
Other upper respiratory infections	261	199	32
Dysentery, enteritis	49	46	3
Febrile abortion	39	32	7
Pelvic Inflammatory disease—adnexitis, endometritis, parametritis, etc.	523	484	6
Lymphadenitis, sinusitis	32	28	3
Otitis	159	116	16
Puerperal infections	140	54	55
Skin diseases—furunculosis, pyoderma, erysipelas, etc.	78	54	8
Surgical infections	206	199	7
Tonsillitis	125	122	1
Urogenital infections—			
prophylaxis	269	222	58
therapy	989	723	139
Miscellaneous	393	292	71
	3705	2934 79%	449 12%

*9% unreported
(1) Essellier, A. F., H. Hunsiker and R Goldsand; Ibid 88:813, 1958.

Contraindications

☐ SULFABID (Sulfaphenazole) is contraindicated in patients known to be sensitive to sulfonamides. Like most sulfonamides and certain other drugs, its use is also inadvisable in treating premature infants and in full-term infants for the first week of life due to underdeveloped enzyme systems and liver and renal function. For the same reasons, SULFABID (Sulfaphenazole) should be used with caution at term in pregnancy.

Precautions

While the reported incidence of reactions to SULFABID (Sulfaphenazole) is low, the usual precautions in sulfonamide therapy should be observed, including maintenance of adequate fluid intake. In the event of headache, nausea or vomiting, dosage should be reduced or discontinued; if urticaria, rash, fever or hematuria occur, the medication should be discontinued. When SULFABID (Sulfaphenazole) is used intermittently or for prolonged periods, blood counts should be performed regularly to detect the possible occurrence of blood dyscrasias. Administration of the drug should be stopped immediately if alterations are observed in the hematopoietic system. Patients with impaired renal function should be followed closely in order to avoid excessive drug accumulation.

Dosage:

SULFABID (Sulfaphenazole) is administered orally as tablets or as a suspension twice daily for five to seven days or until the patient remains asymptomatic for 48 hours.

	Initial Dose	Every 12 Hrs. Thereafter
Adults:		
Moderate to severe infections—	6 tablets (3 gm.) or 2 tablespoonfuls (30 cc.) of Suspension	2 tablets (1 gm.) or 2 teaspoonfuls (10 cc.) of Suspension
Mild or urinary tract infections—	4 tablets (2 gm.) or 4 teaspoonfuls (20 cc.) of Suspension	2 tablets (1 gm.) or 2 teaspoonfuls (10 cc.) of Suspension
Children:	30 mg./lb. 1 teaspoonful of Suspension or 1 tablet per 17 lbs.	15 mg./lb. ½ teaspoonful of Suspension or ½ tablet per 17 lbs.

Incidence of Side Effects

In extensive clinical experience, the over-all incidence of side effects with SULFABID (Sulfaphenazole) has been low. Side effects were mainly limited to complaints of stomach upset and nausea, and these were mild and of short duration.

Supplied

*Tablets: 0.5 Gm., bottles of 50, 250, 1000.
*Suspension: 0.5 Gm. (500 mg) per 5 cc. (teaspoon), bottles of 50 cc. (non-spillable, with a dropper marked for ¼ and ½ teaspoon), and 1 pint.

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Pentaerythritol tetranitrate may infrequently cause nausea and mild headache, usually transient. Slight drowsiness may occur with meprobamate and, rarely, allergic reactions. Meprobamate may increase effects of excessive alcohol. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction. Like all nitrate-containing drugs, 'Miltrate' should be given with caution in glaucoma.

Dosage: 1 or 2 tablets *before meals* and at bedtime. Individualization required.
Supplied: Bottles of 50 tablets.

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proved. Application from Dr. Marie Frain, a psychiatrist from the State Hospital was considered but had to be held in abeyance pending completion of her medical licensure and residency requirements.

Motion made by Dr. C. E. Carleton and seconded by Dr. M. T. Haw that the county society dues be raised to $5 a year effective January 1, 1964 was passed unanimously.

Discussion of a possible oral polio immunization drive to be sponsored by the Jaycee organizations in Farmington and the Lead Belt was held. The membership felt that this drive, if conducted under appropriate medical supervision and in cooperation with the county nurse, could be beneficial to the community health. It was suggested that the plans be cleared with local doctors and that any records obtained be left with the county nurse if agreeable with her following the drive.

Discussion was held concerning any possible need for a standing committee on mental health for this county medical society. In view of the close and friendly relationship with the professional staff at Farmington State Hospital, it was felt that there was no need for a formal committee in this field.

W. D. English, the District Councilor from Cardwell, then addressed the meeting. He discussed Operation Hometown and other important items.

Physicians in attendance in addition to Dr. Gold were Drs. A. G. Karraker, C. H. Appleberry, Charles Michaelis, William Ford, J. F. Foster, T. R. Burcham, Jack Mullen, M. T. Haw, Paul Dennis, V. W. Taylor, C. E. Carleton, A. Brennan, Ray Knowles, W. D. English, C. W. Chastain, F. R. Crouch and George A. Oliver.

C. W. CHASTAIN, M.D., *Secretary*

WOMAN'S AUXILIARY

(Continued from page 1094)

portance of our support of MMPAC and AMPAC.

On Thursday morning, Mrs. Aaron E. Margulis, AMA Field Representative to Women's Organizations, discussed our work with other groups in health programs. The business session and luncheon ended our Conference. Everyone seemed to feel that we had accomplished a great deal and provided considerable information.

Instead of Christmas cards, I am sending a donation to IHA this year so this is my greeting to you all—Merry Christmas and may your holidays and the coming year be the best ever!

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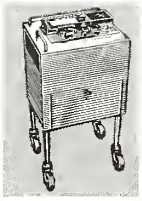

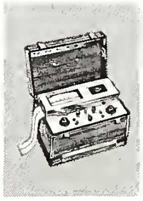

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New Members

James H. Barloon, M.D., 12300 S. 71 Highway, Grandview, has become a member of Jackson County Medical Society. Dr. Barloon is a native of Clinton, Iowa, received his preliminary education at Loras University, and his M.D. degree at the University of Iowa in 1957. He specializes in obstetrics.

Albert D. Cross, M.D., Trenton, has become a member of Grand River County Medical Society. Dr. Cross is a native of Brimson, Mo., received his preliminary education at the University of Kansas City, and his M.D. degree at the University of Missouri in 1962. He specializes in general practice.

William T. Donovan, M.D., 10420 Willowdale Drive, St. Louis, has become a member of St. Louis Medical Society. Dr. Donovan is a native of Chicago, Ill., received his preliminary education at Holy Cross College, and his M.D. degree at St. Louis University in 1954. He specializes in hematology.

Anthony L. Ferro, M.D., 16 Hampton Village Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Ferro is a native of Havana, Cuba, received his preliminary education at Havana Institute No. 1, and his M.D. degree at Havana University in 1949. He specializes in psychiatry.

Emil A. Fullgrabe, M.D., State Office Bldg., Jefferson City, has become a member of Cole County Medical Society. Dr. Fullgrabe is a native of Chicago, Ill., received his preliminary education at Illinois Institute of Technology, and his M.D. degree at Loyola University in 1934. He specializes in public health.

John D. Goldkamp, M.D., 207 N. 5th St., St. Charles, has become a member of Lincoln-St. Charles County Medical Society. Dr. Goldkamp is a native of St. Charles, Mo., received his preliminary education at St. Louis University, and his M.D. degree at St. Louis University in 1957. He specializes in pediatrics.

Bernard Goldstein, M.D., 663 W. Canterbury Road, St. Louis, has become a member of St. Louis Medical Society. Dr. Goldstein is a native of Brooklyn, N. Y., received his preliminary education at Washington University, and his M.D.

Recent reports suggest...insulin and sulfonylureas may accelerate lipogenesis,[1-5]...serum "insulin" levels are often elevated in obese diabetics[2,3,6]...DBI (phenformin HCl) reduces high blood sugars, lowers elevated "insulin" levels, tends to reduce body weight toward normal.[1,3,7-9]

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degree at Washington University in 1956. He specializes in surgery.

William T. Griffin, M.D., 807 Stadium Road, Columbia, has become a member of Boone County Medical Society. Dr. Griffin is a native of Thompson, Mo., received his preliminary education at Hannibal LaGrange College, and his M.D. degree at the University of Missouri in 1959. He specializes in obstetrics and gynecology.

Raymond W. Hartwig, M.D., Rialto Bldg., Kansas City, has become a member of Jackson County Medical Society. Dr. Hartwig is a native of Concordia, Mo., received his preliminary education at the University of Missouri, and his M.D. degree at Washington University in 1956. He specializes in radiology.

William A. Johnson, M.D., 2200 Prospect Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. Johnson is a native of Albuquerque, N. M., received his preliminary education at the University of California, and his M.D. degree at Howard University in 1926. He specializes in internal medicine.

Herbert H. Kaufmann, M.D., 701 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Kaufmann is a native of Chicago, Ill., received his preliminary education at the University of Illinois, and his M.D. degree at the University of Illinois in 1952. He specializes in obstetrics.

William V. McKnelly Jr., M.D., 4801 E. Linwood Blvd., Kansas City, has become a member of Jackson County Medical Society. Dr. McKnelly is a native of St. Louis, Mo., received his preliminary education at Westminster College, and his M.D. degree at St. Louis University in 1955. He specializes in psychiatry.

Murray W. Meador, M.D., Smithville Clinic, Smithville, has become a member of Clay County Medical Society. Dr. Meador is a native of Parsons, Kan., received his preliminary education at Kansas University, and his M.D. degree at Kansas University in 1956. He specializes in general practice.

Marshall T. Metzgar, M.D., 807 Stadium Road, Columbia, has become a member of Boone County Medical Society. Dr. Metzgar is a native of Stroudsbury, Pa., received his preliminary education at Lafayette College, and his M.D. degree at New York Medical College in 1958. He specializes in anesthesiology.

James J. Murphy, M.D., 7546 Troost Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. Murphy is a native

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diabetic!

of Ft. Worth, Tex., received his preliminary education at Rockhurst College, and his M.D. degree at St. Louis University in 1950. He specializes in neurology and psychiatry.

Arthur D. Newcomb, M.D., 115 S. Wood Ave., Fredericktown, has become a member of Mineral Area County Medical Society. Dr. Newcomb is a native of Polk County, Mo., received his preliminary education at Southwest Missouri State College, and his M.D. degree at Missouri University in 1960. He specializes in general practice and obstetrics and gynecology.

Gordon Newton, M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Newton is a native of Dallas, Tex., received his preliminary education at Hendrix College, and his M.D. degree at the University of Arkansas in 1958. He specializes in internal medicine.

Felix Sabates, M.D., 807 Stadium Road, Columbia, has become a member of Boone County Medical Society. Dr. Sabates is a native of Camaguey, Cuba, received his preliminary education at Instituto Camaguey, and his M.D. degree at Havana Medical College in 1955. He specializes in ophthalmology.

Edwin I. Smith, M.D., 1710 Independence Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. Smith is a native of Norfolk, Va., received his preliminary education at Harvard College, and his M.D. degree at Johns Hopkins University in 1948. He specializes in pediatric surgery.

Wilbur S. Spalding, M.D., 1102 Grand Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. Spalding is a native of Plattsburg, Mo., received his preliminary education at Missouri University, and his M.D. degree at Kansas University in 1959. He specializes in ophthalmology.

Worley K. Stewart, M.D., 808 S. Main St., El Dorado Springs, has become a member of West Central Medical Society. Dr. Stewart is a native of Warrensburg, Mo., received his preliminary education at Kansas University, and his M.D. degree at the University of Missouri in 1961. He specializes in general practice.

Lawrence G. Stuerman, M.D., 122 S. 3rd St., Louisiana, has become a member of Pike County Medical Society. Dr. Stuerman is a native of St. Louis, Mo., received his preliminary education at Washington and Missouri universities, and his M.D. degree at Missouri University in 1962. He specializes in general practice.

Paul C. Todd, M.D., Carrollton, has become a member of Grand River County Medical Society. Dr. Todd is a native of Trenton, Mo., received his preliminary education at the University of Missouri, and his M.D. degree at the University of Missouri in 1960. He specializes in general practice.

Frank Tull, M.D., 1012 N. Main St., Sikeston, has become a member of Semo County Medical Society. Dr. Tull is a native of Kansas City, Mo., received his preliminary education at the University of Missouri, and his M.D. degree at Washington University in 1955. He specializes in orthopedic surgery.

Amando Ylagan Jr., M.D., 5203 Chippewa St., St. Louis, has become a member of St. Louis Medical Society. Dr. Ylagan is a native of Dansalan Lamao, Philippines, received his preliminary education at Far Eastern University, and his M.D. degree at the University of Santo Tomas in 1953. He specializes in surgery.

Donald V. Youll, M.D., 4620 Nichols Parkway, Kansas City, has become a member of Jackson County Medical Society. Dr. Youll is a native of Sioux City, Iowa, received his preliminary education at Washington University, and his M.D. degree at the University of Missouri in 1958. He specializes in anesthesiology.

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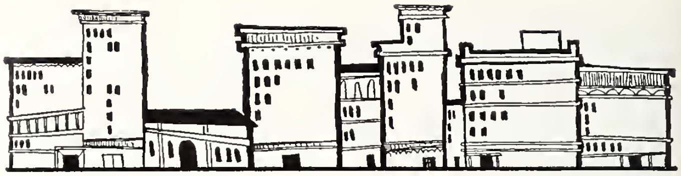


UNIVERSITY OF MISSOURI

Meetings

A symposium on infectious diseases was held at the University of Missouri Medical Center on September 19. The purpose of the conference was to present current methods in the diagnosis and treatment of some of the infectious diseases. University of Missouri faculty members participating in the conference were: Dr. Donald P. Durand, assistant professor of microbiology; Dr. Frank B. Engley, chairman and professor of the Department of Microbiology; Dr. Donald A. B. Lindberg, instructor in pathology; Dr. Henry M. Parrish, associate professor of community health and medical practice; Dr. Felix N. Sabates, assistant professor of surgery (ophthalmology), and Dr. Vernon E. Wilson, dean and director of the University of Missouri Medical Center and School of Medicine.

A correlative seminar on Urology-Obstetrics-Gynecology was held October 17 and 18 at the University of Missouri Medical Center. The purpose of the seminar was to discuss the medical and surgical problems in women which involve the common ground of the genital and urinary tracts in a manner which will emphasize the interdependence of disease processes in the two systems. University of Missouri faculty participating were: Dr. Harold Gainey, consultant in obstetrics and gynecology at Kansas City General Hospital; Dr. William Griffin, instructor in obstetrics and gynecology, and Dr. David G. Hall, associate professor and chairman of the Department of Obstetrics and Gynecology.

Visitors

Four research scientists from the Missouri Institute of Psychiatry in St. Louis visited the Department of Psychiatry of the University of Missouri School of Medicine to consult research programs and facilities. The four were Dr. Max Fink, Institute director; Dr. Turan Itil, principal research scientist (EEG); Dr. Samuel Gershon, principal research scientist (pharmacology), and Dr. Sol Garfield, principal research scientist (psychology). These scientists participated in the Department of Psychiatry Grand Rounds, and also visited members of other departments relevant to on-going research activities.

Mr. J. D. Fisher, representative of the Stephenson & Turner Co. who is presently involved in designing Medical Center facilities in Australia, visited the University of Missouri Medical Center. Mr. Fisher plans to be in the United States three months visiting the newer medical center facilities. He has just finished a tour of the University of California Medical Center and is planning to visit the University of Kentucky and the Universty of West Virginia medical centers. Mr. J. Barton Boyle, assistant director of the University of Missouri Medical Center, discussed the facilities here and took Mr. Fisher on a tour of the hospital.

Trips and Talks

Dr. Kenneth K. Keown, professor of anesthesiology, attended a meeting September 28 and 29 in Chicago. Dr. Keown, as secretary of the Section on Anesthesiology, met with other Section Secretaries of the American Medical Association to plan the annual meeting for 1964. Dr. Keown also attended a meeting in Kansas City on September 30 sponsored by the Kansas City Southwest Clinical Society. Dr. Keown lectured to three different groups on: "Regional Anesthesia for the Outpatient," "Anesthesia in Poor-Risk Patients" and "Heart Failure in the Operating Room."

Mr. J. Barton Boyle, assistant director of the University of Missouri Medical Center, gave a speech to the Kiwanis Club of Kirksville, Mo., on September 19, about the rising cost of hospitals.

Dr. H. S. Goldberg, professor of microbiology, and Louis Kucera, a graduate student at the University of Missouri School of Medicine, presented two research papers at the Conference on Antimicrobial Agents and Chemotherapy in Washington, D. C., on October 28 and 30. The conference was sponsored by the American Society for Microbiology and about 600 physicians, microbiologists and biochemists attended. The topics of the papers are: (1) "Antibiograms as an

Aid in Identifying Anarobic Gram Negative Rods," by Dr. Goldberg, and (2) "Conversion of Penicillin Resistance to Penicillin Sensitivity in S. *aureus*" by Mr. Kucera. Mr. Kucera is a Ph.D. candidate under the direction of Professor Goldberg in the Department of Microbiology.

Dr. Frank B. Engley Jr., was chairman of a joint committee of the Missouri Public Health Association-Missouri Association for Social Welfare in Jefferson City on September 29. The meeting was held to study ways and means of improving the health of the people of the state of Missouri. Dr. Engley also attended the executive board meeting of the Missouri Public Health Association in Jefferson City on October 3.

Dr. Michael H. Ivey, assistant professor of microbiology, and Dr. R. M. Hyde, instructor in microbiology attended the symposium on infectious diseases at the Medical Center on September 19.

Sixty-seven sophomore nursing students received their caps in the annual School of Nursing at the University of Missouri capping ceremony. A reception followed at the University Memorial Student Union.

Dr. William T. Griffin, assistant professor in obstetrics and gynecology at the University of Missouri Medical Center, presented a case at the Missouri Maternal Mortality Committee meeting in Kansas City on September 19. The meeting was sponsored by the Kansas City Gynecological Society and the Missouri Maternal Mortality Committee.

Dr. David G. Hall, professor and chairman of the Department of Obstetrics and Gynecology, attended a meeting in Oklahoma City on September 18 through 21 sponsored by the American College of Obstetricians and Gynecologists, District VII. Dr. Hall participated in the panel on "Chemotherapy for Malignancy."

Dr. Robert L. Jackson, professor and chairman of the Department of Pediatrics; Dr. Fikri M. Hanna, assistant professor of pediatrics; Dr. Richard Guthrie, assistant instructor of pediatrics; Dr. William O'Rourke, intern in pediatrics, and James Burkeholder, resident in pediatrics, attended a "Symposium on Rheumatic Fever" in St. Louis, October 5. The meeting was sponsored by the Heart Disease Control Program, St. Louis Division of Health, Washington University School of Medicine, and the St. Louis Heart Association. Subjects for discussion included the surgical management of rheumatic heart disease and recent developments in the pathogenesis of immunological disorders, in addition to special features of rheumatic fever.

Dr. Robert L. Jackson, professor and chairman of the Department of Pediatrics; Dr. Gerard VanLeeuwen, instructor in pediatrics; and James Burkeholder, M.D., resident in the Department of Pediatrics, attended a meeting of the American Academy of Pediatrics in Chicago on October 7 through 10. The meeting discussed current concepts as to cause and management of diabetes and infants of diabetic mothers.

Dr. Jackson also attended a postgraduate meeting on Pediatrics at Iowa City, sponsored by the State University of Iowa. A film, made in Beirut, Lebanon, by I.C.N.N.D. titled "Nutritional Survey," was shown.

Dr. Fernando Tapia, associate professor of child psychiatry, attended a meeting in Springfield, Missouri, on September 14 and 15 sponsored by the Mid-Continent Psychiatric Association. He was a member of a panel which discussed juvenile delinquency and social psychiatry. Approximately 150 psychiatrists and other allied professional guests attended the meeting.

Dr. James M. A. Weiss, professor and chairman of the Department of Psychiatry, and Dr. David Davis, associate professor of psychiatry, attended the Ninth Annual Institute for Professors of Psychiatry West of the Mississippi, with Tulane University School of Medicine acting as host. Dr. Weiss served as a discussion leader at the conference, where representatives of departments of psychiatry in medical schools west of the Mississippi discussed the increasing importance of community mental health in the education of medical students and residents. Drs. Weiss and Davis also visited the Departments of Psychiatry at Tulane and Louisiana State Universities, and two local mental health centers.

Dr. J. O. Sines, associate professor of clinical psychology; Dr. Rodman P. Kabrick, associate professor of clinical psychology; Dr. D. G. McDonald, assistant professors of clinical psychology, and Dr. D. F. Kausch, assistant professor of clinical psychology, attended formal and informal meetings and discussions at the annual meeting of the American Psychological Association in Philadephia, Pa., August 28 through September 3. The discussions dealt with the application of clinical and experimental psychological principles to patient care and medical student teaching.

Dr. Robert E. Froelich, assistant professor of psychiatry; Dr. James M. A. Weiss, professor and chairman of the Department of Psychiatry; Dr. Fernando Tapia, associate professor of child psychiatry, and Dr. David Davis, associate professor of psychiatry, attended a meeting in

Springfield, Mo., September 13 through 15 sponsored by the Mid-Continent Psychiatric Association. Dr. Froelich presented a progress report of the Division of Health pilot projects planned to evaluate methods of training and assisting practicing physicians in rural areas. About 200 psychiatrists attended the meeting.

The Department of Psychiatry acted as cohosts with The Menninger Foundation and the Springfield (Missouri) Medical Center for Federal Prisoners for the scientific program presented at a meeting in Springfield on September 13 through 15 sponsored by the Mid-Continent Psychiatric Association. Dr. James M. A. Weiss, professor and chairman of the Department of Psychiatry, presided at one of the four sessions (on forensic psychiatry) and Dr. Donald B. Peterson, clinical associate professor of psychiatry, at another (on community psychiatry). Dr. Fernando Tapia, associate professor of child psychiatry, spoke on juvenile delinquency. Dr. Margaret Mead gave the academic lecture on "Problems of Criminology and Law in Different Cultures." About 200 psychiatrists from Missouri, Kansas, Oklahoma and Arkansas attended.

Dr. Ian M. Thompson, professor of surgery, was a guest speaker at the Postgraduate meeting of the University of California Medical Center in San Francisco. Dr. Thompson spoke on "Pediatric Urinary Problems" and "Treatment of Cancer of the Bladder"; he also gave a lecture on "Posterior Urethral Valves." On October 11 through 12 Dr. Thompson was a guest speaker for the Wyoming Academy of General Practice in Laramie, Wyo. He spoke on "Urologic Aspects of Abdominal Masses in Children" and "The Diagnosis and Management of Urinary Incontinence."

Dr. Ian M. Thompson, Dr. Gilbert Ross Jr., Dr. Edward Johnson, Dr. Victor Robards, Dr. Charles Casteel and Dr. Frank Michener of the Section of Urology; and Dr. Donald Lindberg of pathology presented four papers representing original research studies on: "Septicemic Shock," "The Surgery of Urinary Incontinence," "The Patho-Physiology of Vasal Infection," and the "Mechanisms of Hyperparenchymal Hypertension" at the South Central Section meeting of the American Urological Association, Inc., at Colorado Springs, Colo. The presentation was made October 14 through 17.

Foreign Visits and Visitors

Dr. Edward W. Dempsey, dean of the School of Medicine, has spent three weeks recently in the Soviet Union as a representative of the U. S. Department of Health, Education and Welfare. He was one of six representatives of United States medical schools making the visit. The group visited medical schools, institutes for advanced training of physicians, the "middle medical schools" for training of general physicians and ancillary personnel and hospitals. Cities included on the itinerary included Moscow, Kiev, Baku, Tashkent, Sverdlovsk and Leningrad.

As another part of the state department reciprocal visits with the Russian Ministry of Health, six Russian hematologists visited Washington University for several days in October. They included faculty members from the Central Institute for Doctors Training, the Moscow Medical Institute, and staff members at the Leningrad Blood Transfusion Institute and the Central Institute Blood Transfusion.

Another group of six Ecuadorian medical students also visited the medical school where they observed surgery and visited the medical wards. This group was on a month tour of United States medical centers.

SAINT LOUIS UNIVERSITY

Honor Awards

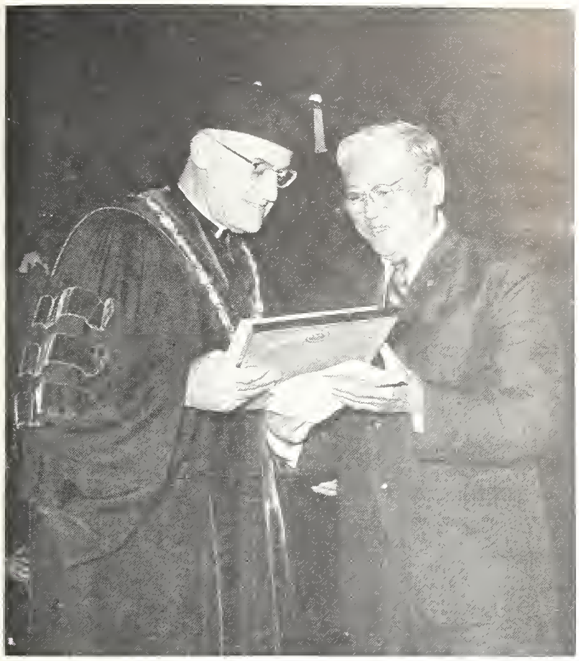
An alumni merit award was conferred upon Dr. Frederick Lam by the Very Rev. Paul C. Reinert, S.J., University president, during Founders Week observed by the University October 17 to 22. Dr. Lam, a 1920 medical graduate, is a resident of Honolulu. Last year he was honored by the Honolulu County Medical Society for his valuable contributions to medical practice and service.

After receiving his M.D. degree from St. Louis University, Dr. Lam returned to Hawaii where his interest in maternity and child health resulted in his appointment by the Territorial Board of Health as Director of Maternal and Child Health and the Bureau of Infectious Diseases.

In reading his citation aloud, Father Reinert said, "In matters of Public Health, the entire Pacific area benefitted by his work on the epidemiology of infestation with the liver fluke Clonorchis sinensis. For this he received a Distinguished Service Medal from the Republic of China.

"As a citizen of the world, Dr. Lam served as a director of many agencies promoting international peace and welfare including the Institute of Public Relations, the Pacific and Asian Affairs Council and the International Institute. He headed the China Famine Relief Committee in Hawaii and acted as General Chairman of

(Continued on page 1175)



The Very Rev. Paul C. Reinert, S.J., University President, confers alumni merit award in medicine upon Dr. Frederick Lam of Honolulu.

the China Emergency Medical Relief Committee.

"St. Louis University is particularly grateful to Doctor Lam for his performance as Chairman of the Priority Needs Campaign from 1959 to 1963. The esteem in which he is held by his fellow alumni of the State of Hawaii is indicated by his attainment in a remarkably short time of 150 per cent of the allotted quota. He continues as Chairman of the 159th Anniversary Development program of St. Louis University for the entire State of Hawaii."

St. Louis University conferred an honor citation upon Dr. Joseph C. Foust, a 1948 alumnus, in recognition of outstanding personal and professional accomplishments, in ceremonies held at the University's School of Medicine, October 7.

Dr. Joseph C. Foust, who abandoned the practice of medicine in Ionia, Mich., in 1959 to become a medical missionary in Africa received the citation from the Very Rev. Paul C. Reinert, S.J., University president.

An alumni luncheon at Firmin Desloge Hospital preceded the convocation. Classmates who sponsored the luncheon accompanied Dr. and Mrs. Foust to the School of Medicine for the program, which was attended by medical faculty, medical alumni residing in St. Louis, medical students and medical center administrators. The Rev. Edward J. Drummond, S.J., vice president, Medical Center, presided. The Rev. Francis J. O'Reilly, S.J., vice president, University Relations, delivered the invocation.

After the conferral of the citation and an address by Father Reinert, Dr. Foust spoke on his experiences as a medical missionary in Tanganyika, where he has established a 45 bed hospital. Some 4,000 patients are treated at the hospital and its clinics each month. Seeing an average of 150 patients a day, Dr. Foust encounters almost every type of disease.

Dr. and Mrs. Foust returned to the United States from Tanganyika in June and departed for Africa on October 17. Accompanying them were their four youngest children. The four older Foust children will remain behind for school.

Elections

Dr. R. Emmet Kelly has assumed new duties as president of the St. Louis University Alumni Association. He made his presidential address at a dinner meeting attended by medical alumni at Norwood Hills Country Club during Founders Week. Dr. John Shaner, retiring president, was presented with a plaque designating his dedicated work to the alumni association.

Dr. Francis Paletta, professor of clinical surgery, has been reelected to the Executive Board of the American Society of the Plastic and Reconstructive Surgery Society. He recently attended the Congress of Plastic Surgery where he delivered a paper entitled "Hypothermia in Surgery of the Extremity."

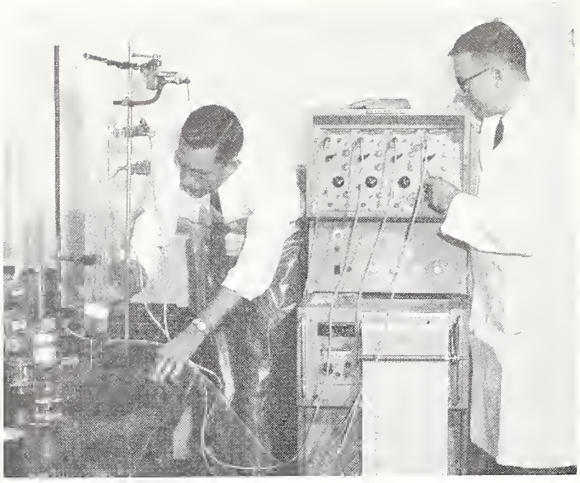
WASHINGTON UNIVERSITY

Grants and Gifts

New equipment for measuring internal body pressures has been purchased through a gift of Mr. and Mrs. Herbert Altheimer, Chicago, by Washington University School of Medicine. The strain gauge is now in use in the division of urology, Dr. Justin Cordonnier, professor of urology, has announced. He said it would be used for diagnostic work in patients and for some experimental studies in animals measuring arterial pressures and ureteral and bladder pressures.

The machine will permit the simultaneous measurement of bladder pressure, voiding rates, voiding pressures and the calculation of bladder neck resistance. It is hoped that this will be of help in diagnosing bladder neck obstruction in children and evaluating the effectiveness of various frames of therapy.

A $595,394 federal grant from the Department



A new strain gauge is now in use at Washington University School of Medicine. Drs. Richard Parsons and William Bowles are using the device in diagnostic and animal experimental work.

of Health, Education and Welfare to St. Louis Children's Hospital brought the hospital's building fund drive to within $391,000 of its goal. The drive has raised $2,513,000 of its goal of $3,500,000 for a five-story addition to a building for research, outpatient and teaching facilities.

Washington University School of Medicine also received a grant of $48,853 from HEW with matching funds. It will be used to build a one story addition to one wing of Wohl Hospital, providing for a copper-screened laboratory for electrophysiology research, a chemical laboratory for study of the heart muscles and two other general laboratories. The project will also permit an increased staff and more graduate students doing research on causes of heart disease.

A research grant of $271,481 by the National Institutes of Health has been made to Dr. S. Richard Silverman, professor of audiology at Washington University School of Medicine, and Dr. Hallowell Davis, research professor of otolaryngology and professor of physiology. They will continue research at Central Institute for the Deaf into auditory communication and disorders. The project, under an initial grant, was begun last year, and is expected to continue for about six more years.

Washington University Medical Society

Dr. Richard Krause, professor of epidemiology, has been elected president of the Washington University Medical Society. He succeeds Dr. William Daughaday, professor of medicine. The society presents several programs a year to inform students and faculty of research in progress at the school.

Dr. Sam L. Clark, associate professor of anatomy, was elected vice president. Dr. William Sleator, associate professor of biophysics, will continue as secretary of the Society. Elected to the council were Dr. Carl Frieden, associate professor of pathology; Dr. Alfred Sherman, associate professor of obstetrics and gynecology, and Dr. Robert Utiger, instructor in medicine.

Undergraduate scholarships presented at the first meeting of the year went to Peter L. Schwartz, Chicago, who was presented the Roche Award of a watch and scroll for outstanding scholarship during the first two years of medical school, and to Ronald Evens, Herculaneum, Mo., the Alumni Scholarship Award of $200 for general excellence in work during the previous year. Schwartz and Glen L. Melson, Lincoln, Neb., were awarded the McCordock Book prizes for excellence in pathology. William G. Wood, Muskogee, Okla., received the George F. Gill and Kehar S. Chouke prizes for superior work in anatomy during the freshman year. The Biochemistry Prize was awarded to Clifford S. Schultz, Oakland, Calif.

Dr. Sarah A. Luse, professor of anatomy and pathology, discussed the ultrastructure of reconstituted and natural collagens at the meeting. Dr. C. Kirk Osterland, assistant professor of medicine and preventive medicine, presented a paper on genetic studies on human gamma globulin. Dr. Mary C. Parker, research instructor in medicine, discussed clinical characteristics and response to human growth hormone in pituitary dwarfism.

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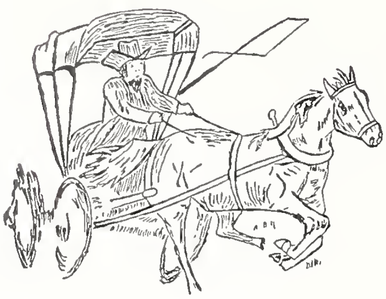
Missouri Medicine in Review



FORTY YEARS AGO

Recent amazing revelations of fraudulent trafficking in medical diplomas have aroused both the public and the medical profession in Missouri and elsewhere throughout the United States. The sensational disclosures by the *St. Louis Star* have uncovered the operation of a gigantic ring throughout the state and nation. The principal characters apprehended to date, as given by the *St. Louis Star,* are: Dr. Ralph A. Voigt, 36 years old, physician and surgeon with offices in the Minor Building, Kansas City, "the master mind" of the ring, it is alleged; Dr. D. R. Alexander, 45 years old, dean of the Kansas City College of Medicine and Surgery. According to the *Star,* Dr. Alexander sells credits, diplomas, and confers degrees upon anyone recommended by Dr. Voigt. Also Dr. Robert Adcox, 63 year old retired physician of St. Louis, is said to be the go-between, or one who helps to furnish grist for the mill, and Professor W. P. Sachs, 56 years old, former minister, former county superintendent of schools, former examiner for the Missouri Department of Public Schools, former dean of the National University of Arts and Sciences of St. Louis.

In 1911 a careful survey of the prevalence of infantile paralysis in Missouri showed that during the preceding six years 635 new cases had developed, or approximately 100 new cases a year. As only 81 of this number died and as a majority of such cases have a greater or less degree of chronic residual paralysis, they present a cumulative problem for study.

The State Board of Health, assisted by Dr. F. C. Waite of Cleveland, Ohio, and members of the special committee of the Missouri State Medical Association, has completed the inspection of the six medical schools in Missouri, viz., the Washington University Medical School, the Medical School of the State University, the Kansas City College of Medicine and Surgery, the Kansas City University of Physicians and Surgeons and the St. Louis College of Physicians and Surgeons.

The Board of Trustees of the American Medical Association has authorized the reduction of the annual Fellowship dues and subscription to *The Journal of the A.M.A.* to $5.00 per annum, effective January 1, 1924.

The Reverend W. F. Robison, President of St. Louis University, has announced that plans are being formulated to educate students in the high school and collegiate departments of the university free of cost.

TWENTY-FIVE YEARS AGO

Fifteen per cent of Missouri's births are not registered, according to the most recent report of the Bureau of Vital Statistics. It means that 15 per cent of Missouri's children are handicapped because there is no official record of the births. Social Security legislation now requires birth certificates for aid to dependent children as well as old age pensions and it is, therefore, more than ever before the duty of physicians to report all births.

Plans for the Ellis Fischel State Cancer Hospital for Indigents have been accepted by the Cancer Commission. The hospital was made possible through an appropriation of $500,000 by the legislature in 1937. Later $409,090 was granted the Cancer Commission by the Public Works Administration, making a total of $909,090 for the construction and equipment of the hospital. The hospital is to be located on a 40 acre tract of land on Highway 40 in Columbia. This land was given by Columbia to the Cancer Commission.

The Southeast Missouri Medical Society held its sixty-second annual meeting at Poplar Bluff on October 11 and 12 with Dr. H. M. Henrickson, Poplar Bluff, presiding. Dr. George W. Vinyard, Jackson, the only charter member of the society now living, was present.

It has been just twenty-five years since Anitschow's classic rabbit experiments focused attention upon the role of cholesterol in the pathogenesis of human arteriosclerosis. Despite the

CLASSIFIED ADS

WANTED—Associate in General Practice in a two-man Modern Clinic Building. Town of about 7,000 in Missouri Ozarks. Modern hospital available. Contact Rollin H. Smith, M.D., West Plains, Missouri.

FOR SALE—Dermatologist wants to sell office equipment, instruments, quartz lamp, microscope. Reasonable prices. For information, write Box 281, c/o Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Missouri.

WANTED—Wonderful opportunity for General Practitioner to locate in a medical building now being built in the growing community of Washington, Missouri. Prescription pharmacy will be in building. Location close to hospital. One suite is left, size 20′ x 40′. No rent for one year and attractive assistance will be offered to interested medical doctor. Write Robert Miller, 210 West Main, Washington, Missouri.

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FOR SALE—Used medical equipment. Equipment was used by general practitioner in small community. Most of the equipment less than year old. The equipment now owned by estate, price very reasonable. Write or call Ray N. Fowler, Administrator, 101½ S. Main, El Dorado Springs, Missouri. UPton 6-3614.

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ASSOCIATE WANTED—EENT Certified Senior Board man wants associate to join him short time then wants to retire. Large area, no competition. Beautiful country—good hospital. Write Box 295, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Mo.

M.D. URGENTLY NEEDED—There isn't a doctor within six miles of Marionville, a fast growing town of 1,400 inhabitants, located in Southwest Missouri. It is in a fertile farming region and is well supplied with industry, good schools and churches. Close to big fishing lakes. Excellent climate. For information write Lee Collier, Marionville, Missouri.

FOR SALE—Eye, Ear, Nose and Throat Practice. Instruments and furnishings. May inspect at office located at 108 N. Third Street, Hannibal, Missouri. For further information, contact Mrs. W. J. Smith, 3101 St. Marys, Hannibal, Missouri 63401.

ASSOCIATE under 50 needed in a progressive, industrial community 35 miles from Kansas City hospitals and 11 miles from new 50 bed County hospital. New, fully equipped office with partnership available. Starting salary $12,000. Contact: A. W. Eklund, M.D., 405 Cedar Street, P.O. Box 119, Pleasant Hill, Missouri.

FOR SALE—Laboratory supplies, glass slides, reagents, syringes, microtomes, knives and others by retired pathologist. For list write Box 294, c/o Missouri State Medical Association, 623 Missouri Theatre Building, St. Louis 3, Missouri.

fact that there is no evidence of any sort which might warrent the belief that death from arteriosclerosis and its complications is even remotely associated with fat or cholesterol consumption, there has been a regrettable tendency in recent years to restrict the consumption of foodstuffs containing them.

TEN YEARS AGO

Twenty-six MoMedics were awarded fellowships in the American College of Surgeons at the October meeting in Chicago.

Recently voted into office as President-elect of the Southwest Surgical Congress was Lawrence P. Engel, M.D., Kansas City; John H. Mayer Jr., M.D., also of Kansas City, was elected Councilor for Missouri at the meeting in Salt Lake City.

Martin Feeney Engman, M.D., who died in Ladue in October, was a founder of the Carville National Leper Home, former chairman of the board of the Barnard Skin and Cancer Hospital, and was at one time Clinical Professor of Dermatology at Washington University.

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DEATHS

Goodson, William H., M.D., Liberty, a graduate of the University of Missouri, 1906; member of Clay County Medical Society; aged 82; died September 22, 1963.

Demko, Frank, M.D., Pevely, a graduate of St. Louis University, 1923; member of St. Louis Medical Society; aged 68; died September 30, 1963.

Smith, William J., M.D., Hannibal, a graduate of Chicago College of Medicine, 1916; member of Marion-Ralls-Shelby County Medical Society; aged 73; died September 30, 1963.

McCarthy, Eugene F., M.D., St. Louis, a graduate of St. Louis University, 1912; member of St. Louis Medical Society; aged 76; died October 4, 1963.

Potter, Allen B., M.D., Bowling Green, a graduate of St. Louis University, 1924; member of St. Louis Medical Society; aged 69; died October 6, 1963.

Mudd, James L., M.D., St. Louis, a graduate of St. Louis University, 1923; member of St. Louis Medical Society; aged 68; died October 6, 1963.

Zentay, Paul J., M.D., St. Louis, a graduate of the University of Kolozsvar, Hungary, 1914; member of St. Louis Medical Society; aged 72; died October 8, 1963.

Peckham, John W., M.D., Webster Groves, a graduate of St. Louis University, 1941; member of St. Louis Medical Society; aged 50; died October 14, 1963.

Brown, W. Sidney, M.D., University City, a graduate of National University of Arts and Sciences, 1917; member of St. Louis County Medical Society; aged 70; died October 19, 1963.

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